A STUDY ON

PITHA THALAI NOKKADU

Dissertation submitted to

THE TAMILNADU DR. M.G.R MEDICAL UNIVERSITY

Chennai-32

For the partial fulfilment of the requirements to the Degree for

DOCTOR OF MEDICINE (SIDDHA)

(Branch I – Pothu Maruthuvam)

DEPARTMENT OF POTHU MARUTHUVAM

GOVERNMENT SIDDHA MEDICAL COLLEGE

PALAYAMKOTTAI – 627 002.

APRIL - 2013

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ACKNOWLEDGEMENT

I am extremely grateful to my Lord almighty that empowered me with his blessings and grace to finish my dissertation work successfully.

It is my pleasure and privilege to acknowledge the blessings and encouragement of my parents without which the completion of this study would not possible.

I take this opportunity to express gratitude and acknowledgement to the **Vice-Chancellor, the Tamilnadu Dr. M.G.R. Medical University**, Chennai, **The Commissioner, Director of Indian Medicine and Homeopathy**, Chennai and joint Director of Indian Medicine and Homeopathy Chennai.

I express my thank to our principal Prof. **Dr.N. Chandra Mohan Dass M.D. (S)**, and Vice principal Prof. **Dr.S. Soundara Rajan M.D. (s),** Government Siddha Medicine College, Palayamkottai for providing all necessary facilities for my work.

I express my deep sense of gratitude to **Dr.S. Mohan M.D(s)** Professor and head of the Department of PG Pothu Maruthuvam, Government Siddha Medical College, Palayamkottai for his valuable guidance and suggestion in caring out my dissertation.

I express my sincere thanks to **Dr.A. Manoharan M.D. (s)** Reader, PG Pothu Maruthuvam, Government Siddha Medical College, Palayamkottai for his kind and affectionate encouragement to my work.

I am very grateful to **Dr.S. Justus Antony M.D(s),** Assistant Lecturer, Department of Post Graduate Pothu Maruthuvam, Govt. Siddha Medical College, Palayamkottai for giving encouragement and valuable suggestions for my dissertation work.

I record my deep sense of gratitude to Professor **Dr. V. Neela Kandan M.B.B.S; MD (Internal Medicine)**, Modern Medicine, Government Siddha Medical College, Palayamkottai for his valuable guidance in modern aspects.

I acknowledge my thanks to **Mr. M.Kalaivanan M.Sc; M.Phill;** Lecture, Modern Pharmacology Department, Government Siddha Medical College, Palayamkottai for their help during the entire course of my work.

I also thanks to **Mrs.N. Nagaprema M.Sc; M.Phill**; Lecturer Head of the Department and all the staffs of Department of Biochemistry, for their help in Biochemical analysis for this work.

I wish to thank all the faculties especially librarians and lab technicians, Government Siddha Medical College, Palayamkottai for their whole support.

My heartely thanks to my beloved friends A. Ravichandiran(Engg), Dr.D. Kalaiselvi M.D(s) who gave me timely help, a lot to this work.

And my great thanks to **Broad-Band Net Cafe** for their sincere and kind cooperation to complete this work successfully.

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INTRODUCTION

Medicine is the applied science or practice of the diagnosis, treatment, and prevention of disease. It encompasses a variety of health care practices evolved to maintain and restore health by the prevention and treatment of illness in human beings. The term medicine is used to refer the science of healing, as well as any substance that is used to treat diseases and promote health.

Today there is a variety of different health care professions that use medicine as a tool to improve and maintain health. The use of medicine and plants with medicinal properties has taken place since the prehistoric times when people believed that herbs and animal parts could help heal sick and injured people.

The Siddha Medicine is one of the traditional medical systems known to mankind. It is the most ancient and spiritually enriched one. Contemporary Tamil literature mentions the origin of the medical system from Southern India in the state Tamil Nadu, as part of the trio Indian medicines – Ayurveda, Siddha and Unani. Reported to have surfaced more than 2500 years ago, the Siddha system of medicine is considered one of the most antiquated traditional medical systems.

Siddha Medicines are formulated and prepared by the Siddhars thousands of years ago after undergoing various research works on flora, fauna and the rich mineral resources of Mother Earth.

"வேர்பாரு தழைபாரு மிஞ்சினக்கால் மெல்லமெல்ல
பற்ப செந்தூரம் பாரே".

In siddha system disease are classified on the bases of tridoshic theory i.e, vatham, pitham and kabam.

"மெய்யளவு வாதமொன்று
மேல்பித்த மோரரையாம்
ஐயங்கா லென்றே அறி".

Yugi muni who is one of the most ancient siddhar is classified vadha disease into 80 types. Pitha Thalai Nokkadu is one among them.

Pitha thalai nokkadu has most of the clinical features that are relatively similar to sinusitis. So the disease is compered with sinusitis. So I enthusiazed to give innovation of treatment and to treat without side effects.

So I selected Peenisathuku Chooranam (internal) for clinical study of Pitha Thalai Nokkadu. Because of the easy availability of ingredients and its convenience in preparation the trial drug has been chosen for clinical study.

AIM AND OBJECTIVES

The chief aim of this study is to collect and review the views about Pitha Thalai Nokkadu from various Siddha Literature and to elucidate effective medicine for the same.

In Siddha kabam is considered as the most effective cause of the disease. It affects the children and adults of both sexes. It alters the normal conditions under the topics Mukkutram, Poripulankal, 7 Udal thathukal, En vagal thervugal, Naadi, Neerkuri and Neikuri.

To expose the diagnostic parameters and the efficacy of siddhars.

Tohave clinical trial in the treatment of Pitha Thalai Nokkadu with the trial drug Peenisathuku Chooranam (internal).

To know medical advices and diet restrictions that helps in curative of this disease.

To know the correlation of aetiology, classification, signs and symptomps, investigation, diagnostic method and line of treatment in modern aspect.

To use modern parameters to investigate and conform the diagnosis.

To analyse Biochemical, Pharmacological and Microbiological actions of the trial drug.

ABSTRACT

The incidence of increasing diseases in recent times is due to changes in environment, abnormal dietary habits and life style. One of the most common disease in the society and the number of sufferers are increasing day by day is Pitha Thalai Nokkadu.

Twenty patients of both sexes were selected as inpatients and another twenty patients as outpatients in PG Pothu Maruthuvam department, GSMC, Palayamkottai. The selected patients were administered with the trial medicine till the period of study.

Peenisathuku chooranam 2 gms twice a day with honey after meals.

The trial medicine was subjected to pharmacological and biochemical analysis as well as microbiological analysis.

Along with medicines pranayama and yoga were also advised to patients. At end of the trial study, majority of the cases showed good results.

REVIEW OF LITERATURE

SIDDHA ASPECT

Ancient Siddha literatures numbered the diseases as 4448types.The classification of these disease are based on the three dhoshic theory i.e, vatham, pitham and kabam. Further vatham classified into 84 diaeases. Pitha Thalai Nokkadu is one among them.

Before reviewing the specific signs and symptoms of the dissertation topic Pitha Thalai Nokkadu other information like definition, aetiology, signs and symptoms, pathology and naadi nadai of Peenisam have been dealt with.

PITHA THALAI NOKKADU:

Pitha Thalai Nokkadu is one of the vatha disease described in Yogi vaidhiya chinthamani.

DEFINITION:

It is a type of vadha disorder affecting para nasal sinuses and mucous member that produces pain over frontal and maxillary region otalgia and sneezing.

Clinical features and signs and symptoms of Pitha thalai nokkadu is mentioned in poem of Yoogi Vaithia chinthamani.

”வன்மையாய் நிற்கின்ற மூக்கு தானும்
வடிந்துமே நீர்ப் பாய்ந்துத் தலைகனத்து
வெண்மையாய் வாய்நீர் தான் மிகவுமுறி
மீறியே உண்ணாக்கைப் பற்றி நொந்து
திண்மையாய் செவிதனியே குற்றலுண்டாய்ச்
சிரசுதான் பாரமாய் மிகக்க னக்கும்
கண்மையாய் கண்ணோடு புருவங் குற்றும்
கனமான பித்தத்தின் றலை நோக்காடே”

According to Yoogi vaidhia chinthamani the signs and symptoms of Pitha thalai nokkadu are,

- Haeviness of head
- Excessive salivation
- Nasal discharge
- Otalgia
- Pain in the eyes and eyebrows
- Nasal discharge

The above signs and symptoms are correlated with sinusitis in modern medicine.

SYNONYMS OF PITHA THALAI NOKKADU:

- Neerkovai
- Mooku noi
- Peenism
- Mookkadaippu
- Mookkuneer paaichal.

Peenisam is characterized by redness of the nasal mucous membrane, sneezing, mild conjunctivitis with lacrimation, watery nasal discharge, head ache, frequent discharge of mucous, pus and blood.

Classification of Vatha Diseases:

According to Yoogi vaithiya chinthamani:

"எண்ணவே வாதமது என்பதாகும்
ஏற்றமாம் பேருடைய எழிலைக் கேளாய்"
"தாக்கான வாதந்தா என்பதாகும்"

- யூகி வைத்ய சிந்தாமணி

According to Agathiyar 2000:

"எண்பது வாதமாகு மிருவளகப் பருத்துக் காணில்"

- அகத்தியர் 2000

So from the above references vatha diseases are classified into 80 in number.

In this classification of vatha, Yoogi described 10 types of head diseases. It as follows,

"சீறியதோர் வாதத்தின் தலைநோக்காடு
பூணவே பித்தத்தின் தலைநோக்கதாடு
புகழான சிலேட்டுமத் தின்றலை நோக்காடு
சாணவே சன்னி வாதத்தின் தலைநோக்காடு
சுரரத்த பித்ததின் றலை நோக்காடே
நுதற் சூரியாவர்த்த மொடு சந்திராவர்த்தம்
ஊக்கான கர்ணாவாதத்தின் னோடு
ஓரு தலையின் வகாதவாதமு மேயாகும்"

- யூகி வைத்திய சிந்தாமணி

Aetiology:

According to Yoogi:

"எண்ணவே வாதமது எண்பதாகும்
இகத்திலே மனிதர்சுரச் செய்யுமாறு
பின்னவே பெந்தனைய சோரஞ்செய்து
பெரியோர்கள் பிராமணரைத் தூஷணித்தும்
வள்ளலே வச்சொத்திற் சோரஞ் செய்து
மாதாபிதா குருவை மறந்த பேர்க்கும்
கன்னவே வேகத்தை நிந்தை செய்தால்
காயத்திற் கலந்திடுமே வாதற் தானே"

- யூகி வைத்திய சிந்தாமணி

People who done ignorance to parents and unrespect of the elders will affect the vatham and thus vatha diseases would come.

Siththa Maruthuvanga Surukkam:

"விழியினில் நீரடக்கில்
விதமான இருத்ரோகம்
வழியடு பீனிசங்கள்
வந்திடும் நேத்தர ரோகம்
அழுகிடும் சிரசில் ரோகம்"

நித்திரை:

"நித்திரை யடங்கி போக
நிகழ்ந்திடும் கருமல் கேளாங்
நித்தமும் தலைக் கனப்பு
சித்தத்திற் செவிடுண்டாகித்
தெளிவுறு பேச்சு முண்டாகித்
தெளிவுறு பேச்சு முண்டாம்
உற்றதோ ருறக்கந் தன்னி
லுண்டாமோர் வாய்வின் கூற"

தும்மல்:

"தும்மலைத் தடைதான் செயதால்
தொகுத்திடும் தலைநோயுண்டாகும்
இம்மை யிந்திரிய மெல்லாம்
இயல்புடன் தெறித்த லாகும்
செம்மையில் முகம் வலித்தல்"

- சித்த மருத்துவ வாங்க சுருக்கம்

According to Sitha Maruthuvanga Surukkam, on controlling sleep and sneezing also a reason for mookadaippu.

According to Agathiyar kanma kandam 300:

"தும்மலறிய பீனாசம் சளி ரணத்தோடு
நிகரில்லா வொருதலை நோய் மண்டைக்குத்தும்
நிசமாக வந்த கன்மம் நிசமாய்க் கேளு
நிகரவே காயடித்த லிலைபறித்தல்
தளிர் கொழுந்து தழைமுறித்தல் பட்டைவெட்டல்
நிகரில்லா பூப்பறித்தல் வேர் பொடிகள் வெட்டல்
நினைவு கெட்டு சீவசெந்து தனையடித்தாவோ"

- அகத்தியர் கன்மகாண்டம் 300

Agathiyar says that Pitha Thalai Nokkadu as kannma disease, and also he says that some activities like plucking of fruits, flowers, cutting of young roots, tress, and hunting the animals will cause Peenism.

According to Pathinen Siththar naadi sasthiram:

"பீனிசந்தான் வரலாறு சொல்லக் கேண்மின்
பேதமுடன் கனலேழும்பி வாயுவுஞ் சேர்ந்து
ஊனுருகி மண்டையிலே தொகுக்கப்பட்டு
உறுதியுடன் வாயுவாங்கே உறுத்திப்பின்னும்
ஈனமுன்னோடும் நீர் சீழ்ரத்தம்
தேனருவி வந்தது போல் செங்கல் சிறாயுஞ்
சேர்ந்து விழும் பினிசத்தின் செய்கையாமே"

- பதிணென் சித்தர் நாடி சாஸ்திரம் (குருநாடி 27)

According to Therar:

"பினசமான பிணிக்கன மெல்லா
மானதிறத்தை யறைந்தது போக
அனமிலா மலுரைத்த மருந்தை
நானவிலகின்றதே னானிலம்தே
ஏண்டின முற்ற விரண்டு த்ரந்தான்
பண்டுள தாகுமற் பங்கினத் தானந்
திண்பிற லேகாடு செய்திறலற்றான்
மண்டை வறண்டு மலிந்திடு நோயே"

- தேரையர் சேகரப்பா.

Therar says, avoiding oil bath twice a week leads to dryness in the head causing watery, purulent or blood discharge and nasal blockage.

Aruvai Maruthuvam, Noi Nadal Noi Muthal Nadal::

- Using too much of cold water.
- Including in Cold air
- Inspire dusty air.
- Inspire sneezing inducing particles.
- Suppressing lacrimation and Vomiting.
- Increased body heat due to yoga.

- T.V.Sambavasivam Pillai Maruthuva Agarathi:

Mucous running off through the nostrils due to an inflammation in the head or cold affection of the nose.

- Entry of minute particles of dust or smoke into the nostrils
- Body heat is transmitted to head
- Voluntary retention of stools and urine
- Excessive application of heat or cold
- Disease of the nose
- Excessive indulgence in sexual intercourse.

CLINICAL FEATURES:

Prodromal Symptoms: (நோய்வரும் முன் காணும் குறிகுணங்கள்)

மூக்கில் ஒருவகை எரிச்சல், நளமச்சல், அதனைத் தாங்க முடியாது முக்கைத் தேய்த்து சிவக்கச் செய்தல்இ பின் கண் சிவந்து நீர் வடிதல், மூக்கு அடைத்தாற் போல் பேசல், காதிச் நமைச்சல், உண்டாக்கி, காதடைப்பு, தலைநோய், மூச்சு உள்வாங்க முடியாமை என்றும் குறிகுணங்களைக் காட்டி மூக்கிலிருந்து தானறியாமலேயே பனிநீர் போல் சொட்டும்.

- சித்த மருத்துவம்

பொது நோய்க் குறிகுணம்:

- பிராயசத்தின் மேல் சுவாசம் வருதல்
- அதிக தும்மல்
- நாசியால் பேசுவது போல் பேசல்
- மூக்கில் துர்க்கந்தம் வீசுதல்
- தலைநோவு

- ஜீவரட்சாமிர்தம் (நாசி காரோக பேதம்)

Noi naadal noi muthal nadal-2:

- Itching and irritation in the nose result in rubbing the tip of the nose become markedly red, tense, tender.
- Redness and lacrimation of the eyes.
- Nasal obstruction may produce snoring
- Itching and blocking of ears
- Difficulty in breathing.
- Profuse watery discharge from the nose

Athma Ratchamirtham Sara sangiragam:

- Watery discharge from the nose
- Itching in the occipital region and face due to exposure to cold air and atmosphere.
- Irritating of the nose
- Frequent sneezing.
- Heaviness of the head and headache.

Nagamuni Thalai Noi Maruthuvam:

"தலைமிக வலிக்கும் நாசிசளி விழுமொரு வுண்டாகும்
நலிவுறு தும்மலுண்டாகும் நாட்செலில் வரளும் நாசி
மலைவுறத் திரண்டு வீழும் வாயுமெ நாற்ற முண்டாகும்
பெலமுற மூக்கடைக்கும் பினீசமென்று தேரே"

"தலையுங் கனத்து வலிகொண்டு சளிபோளு காற்றிரண்டு வீழும்
நிலையுங் கெடாது பரிகார நியதிப் படவே செய்து விரில்
தொலையுஞ் சொன்னனோம் பினிசமுஞ்
சொல்லுங் கபால வரட்சியாமே"

"ஒடுக்கமா மையநாபி யொருங்குடன் பக்க நின்றால்
நடுக்கமாம் பினிசங்க ணாசிநிரப் பாய்ச்சலுண்டாம்
பிடித்திரு மண்டைச் சூலைபெருகிடுந் தலைக்கனப்புத்
தடுத்திரு நன்றா நெய்யைத் தலையிலே தப்பத் தீரும்"

- நாக முனிவர் தலைநோய் மருத்துவம் சிரரோக விதி

- Severe headache and nasal congesion
- Rhinitis
- Sneezing
- Dryness of nose
- Head ache
- Expectoration

Agasthiyar – 2000:

"கண்டமுகங் காதும் கரகரத்தூர்வது போலத்
துண்டமுந் தினவும் பத்திதும்மியே தண்ணீர் வீழ்ந்து
மண்டையுங் கனத்து நொந்து வாதமும் பகைக்குமாகில்
முண்டக மதிக்கு பாதே மூக்கில் நீர்ப்பாய்ச்சல் போம்"

- அகத்தியர் 2000

- Sneezing
- Running nose
- Throat, ear and facial irritation
- Heaviness
- Headache

Agathiyra Gunavagadam:

"தலையும் வலித்து ஊறும் நாசிச் சளியும் விழுந்து ஒடுபட்டு
மலையு னாதலிச் சென்றால் வறண்டே யிறுக்கித் திரண்டு விழும்
உலையு மிகவும் நாற்றமா மூடே தண்ணீர் விழுந்திருக்கும்
பலமுங் சென்று மூக்கடைக்கில் பினிசமென்பார் பெரியோரே"

- அகத்தியர் குணவாகடம்.

Sambasivam Pillai Maruthuva Agarathi:

- Watery discharge from the nose.
- Sneezing in the rainy season
- Pain in the comical refine
- Itching in the occipital refine and face

Maathava Nithanam:

நாசிகாரோகங்கள் விருத்தியடைந்தால், பசியின்மை, செவிட்டு தன்மை, கண் தெரியாமை, வாசனையறிய முடியாமை, பாண்டு, கடுமையான நேத்திர நோகங்கள், சோகை, தோன்றும்.

- மாதவ நிதானம்

Athmaratchamirtham:

- அடிக்கடி தும்மல் விழுதல்
- பிடலியும், தலையும் கனத்து வலிக்கும்
- தேகத்தில் வெதுப்பு காணல்
- நாவில் சுவையின்மை
- மணமும் கெடும்

- ஆத்மரமசாமிர்தம்

MUKKUTRA VERUPADUGAL:

When body heat raises due to the food habits etc, Pitham is vititated and by this the level of kabam is increased. Both pitham and kabam interact and produce pitha thalai nokkadu. According to Siddha texts during the process of yoga, the vitiated body heat along with udhana vayu reaches the head where it combines with kaba and results the disease.

NAADI NADAI:

சதகநாடி

"பண்பான **பித்தத்தில் சேத்தும** நாடிப்
பரிசித்தாலத்தி சுரமிளைப்பு ரூளை
கண்காது நயன மலம் நீருமஞ்சள்
கனவயிறு பொருமள் மஞ்சள் நோய் கண்நோவு
உண்போது மறுத்தல் ரத்த விப்புருதி தானும்
உளைமாந்தை **பினிசமும்** ரத்த வீக்கம்
நண்பான காமாலை சோலை வெப்பு
நணுகிவந்து பலபணியும் நண்ணுந்தானே"

"சிறப்பான **பித்தத்தில் வாத** நாடி
சேரிலுறுதாது நட்ட முதர பீடை
உறைப்பாகச் செரியாமை குன்மஞ் சூலை
யுற்றசுரங் கிராணி வயிற்றிரைச்சல் மந்தம்
அறைப்பான ஒங்கார **புறநீர்க் கோவை**
ஆயாச மிரக்கமொரு மயக்க மூர்ச்சை

முறைக்காய்வு விஷவிக்கம் மூலவாய்வு
முரடான நோய்பலவு முடுகும் பண்பே”

சதக நாடி

”கண்டாயோ **சிலேற்பனத்தில் வாத** நாடி
கலந்திருகில் வயிறுபொருமல் கனத்த வீக்கம்
உண்டாலோ ஓங்காரஞ் சத்திவிக்கல்
உறுதிரட்சை வாய்வுவலி சந்நிதோடம்
விண்டாலோ இறைப்பிருமல் சோபை பாண்டு
விடபாகம் விடசூலை பக்கவாதம்
திண்டாடு நாசிகா பீடங்கந்தல்
சிரநோய்கள் பலவும் வந்து சிக்குந்தானே”

என்பதாலும்,

பித்த ஐய கலப்பு, ஐயவளிக் கலப்பாலும், பித்தவாத கலப்பாலும் மூக்கடைப்பு உண்டாகும் எனலாம்.

மேலும்,

”சிறப்பான **வாதத்தில் லுட்டிணந்** தானே
சேர்ந்திடுகி லதிசார முளைச்சல் வாயு
உரைப்பான பொருமலோடு அக்கினி மந்தம்
உள்ளாகும் நீர்ச்சிறுப்பு பிரமேங்கள்
பிறப்பாடு மதகரிநீர் கரப்பான் ரத்தம்
பிரமேகம் பெரும்பாடு **புறநீர்க்கோவை”**

”கதிப்பான **சேத்துமத்து லுட்டிணல்** டிைல்
கலந்தகுணக் சயமிருமல் சுவாசகாசம்
மதிப்பான கோழைரத்தம் விப்புருதி யுடனே
வளர் **நாசி காபீடமிருத்** ரோகம்”

சதக நாடி

”வியறியாப் பீனிசந்தான் பித்தசேத்துமம்”

பரிபூரண நாடி

”ஒடுக்கமாஞ் **சிலேற்ப** நாடி
யொழுங் கொடு பதறி நின்றால
நடுங்கமாய் **பினீசங்கள்**
நாசி நீர்ப் பாய்சயாகும்”

PINIYARI MURAIMAI (DIAGNOSIS)

The method of diagnosing the disease is Piniyari muraimai. They are poriyalarithal, pulanal arithal and vinathal. Porigal are considered as the five sense organs of perception namely Nose, Tongue, Eye, Skin and Ear.

Pulangal are five senses namely smell, sound, taste, sight sensation. Physicians pori and pulan are used as the tools for examine the pori and pulan of the patient respectively.

Vinathal is obtaining the information, regarding the history of the diseases, the clinical features etc, from the patient from immediate relatives who are taking care of the patient, when the patient is not in a position to speak or if the patient is a child.

The above principle correspond to the method of inspection. Palpation, and interrogation methods of modern science in arriving at a clinical diagnosis of the disease.

Siddha system of medicine has developed a unique method of diagnosing the disease called “Envagai thervugal”.

ENVAGAI THERVUGAL:

I. NAADI:

The three uyirthathukkal are formed by the combination of

Edakalai + Abanan = Vatham

Pinkalai + Piranan = Pithan

Suzhumunai + Samanan = Kabam

In Pitha Thalai Nokkadu the following stages of naadi are seen commonly.

1. Pitha kabam
2. Pitha vaadham
3. Vatha kabam

II. SPARISM:

In sparism, by touching the skin and various parts of the body the physician can find various abnormalities present in the patients.

In the case of Pitha Thalai Nokkadu, mild warmth of the body present, swelling can be notified around the eyes and at maxxilary region. In few cases fever also occur.

III. NAA:

According to the changes in mukkutram, the colour, characters and condition of the tongue changes occurs.

In case of Pitha Thalai Nokkadu patients there may be presence of excessive salivation and tasteless of tongue.

IV. NIRAM:

Pallor, yellowish, cyanosis and other coloration of the skin and mucous membrane should be noted.

In Pitha Thalai Nokkadu, in case of inflammation mucous membrane of the nose appears, reddish in colour.

The type of body is confirmed by skin colour, whether in black(vatham), red yellow (pitham), white (kabam) and mixed colour (thontha naadi).

V. MOZHI:

In examination of speech the low or high pitched voice, aphasia(loss of speech), slurred speech, dysarthria, nasal speech and horseness of voice can be noted.

In Pitha Thalai Nokkadu, low pitched or decreased resonance of voice or nasal speech due to nasal congestion.

VI. VIZHI:

In Pitha Thalai Nokkadu, irritation of eyes, redness of eyes, lacrimation and bluring of vision may be present.

VII. MALAM:

Quantity, colour, odour, constipation and diarrhea of blood mucus, pus and undigested matter etc., can be noted.

In Pitha Thalai Nokkadu the faeces may be black or normal in colour. Constipation may be present.

VIII. MOOTHIRAM:

Neerkuri:

தேரையர் நீர் குறி நெய் குறி நூல்

”அருந்து மாரதமும் சுவிரோ தமதாய
அஃதுல அலர்தல் அகாலவூண் தவிர்ந்தழற்
குற்றளவருத்தி உறங்கி வைகறை
ஆடிக் கலசத் தாவியே தாது மெய்
தொரு முகூர்த்தக் கலைக் கட்டுரீ நீரின்
நிறக்குறி நெய்க்குறி நிரமித்தல் கடனே”

In Siddha system the urine analysis is done according to five parameters.

- Niram – Colour of urine
- Manam – Smell of urine
- Edai – Specific gravity of urine
- Nurai – Forth of urine
- Enjal – Deposites of urine

Niram:

In Pitha Thalai Nokkadu the humones vatham and pitham are slightly aggravated. The colour of urine resembles vatham and pitha urine.

Manam:

The smell of urine in Pitha Thalai Nokkadu may be fruity smell, pleasant foul smelling and flex smell.

Edai:

In Pitha Thalai Nokkadu no abnormalities seen in specific gravity of urine.

Enjal & Nurai:

In Pitha Thalai Nokkadu Enjal and Nurai were normal.

Neikuri:

Prior to the day of urine examination for Neikuri, the patient is advised to take a balanced diet. The quantity of food must be proportionate for his appetite and the patient should have a very good sleep.

After waking up in the morning, urine is collected in a glass container. It is then subjected to analysis within one and half an hour. Then a drop of oil is droped into the vessel that comtaining urine which is kept under sunlight.

In Pitha Thalai Nokkadu, Neikuri shows mostly Vathaneer. Pithaneer and Kabaneer are less common in this disease.

LINE OF TREATMENT:

In Siddha system, due to alteration in mukkunam, the diseases occurs. The main aim of the treatment is to remove udarpini and manapini

Treatment is not only the removal of disease, but it is also for the prevention and improving the body condition.

The three humours which are responsible for organization, integration and regulation of the bodily structures and their physiological functions must be in stage of equilibrium. This is maintained by words, deed, thought, and food of the individual. The general aetiological factors for bodily discomfort are said to caused by incompatible diet, physical and mental activities.

So it is essential to know the disease and its cause for the onset of disease, the severity of illness, the nature of the patient, the time and seasons of the occurrence must be observed.

The line of treatment consist of,

1. Regulation of affected kuttram
2. Drug for the disease
3. Diet restrictions
4. Special external therapies such as Pranayama and Yoga.

In the case of Pitha Thalai Nokkadu medicines should be given to normalize the disturbed humours.

DIET AND RESTRICTIONS:

1. Advised to avoid being in the polluted places and cold environment.
2. Advised to avoid inhalation of dust, fumes and aromatic substances that induce sneezing.
3. Advised to use hot water for drinking and sanitary purposes.
4. Advised not to take buttermilk, ice cream, lemon juice and cool soft drinks.
5. Vegetables like Bottle guard, pumpkin, snake guard are said likely to increase the kaba, so advise to avoided these vegetables.
6. Pepper, karisalai, Thoothuvelai, Karunai, Nelli, Manathakkali, Murungaikai, should be added.
7. Sleep during day time and after oil bath should be avoided.
8. If steam inhalation with turmeric powder and leaves of notchi is also beneficial.

SPECIAL MEDICINES IN SIDDHA SYSTEM:

PRANAYAMA AND YOGA:

The body and mind are developed in a well balanced way through Pranayama and Yoga. Regular practice of Pranayama and Asanas with control of the mind will combat negative elements like laziness, ignoran, inertia and over excitement and also increases the will power.

Pranayama:

Prana means- vital force or breath or cosmic energy

Ayama means- The control of the prana.

The control of the vital force by concentration and regulation of breathing.

The vital force manufacture itself in the body as respiratory function. It is the regulator of the psyche. Pranayama provides a remedy for several physical and psychic disturbances of which modern man is the only victim.

If Pranayama is practiced regularly, the respiratory passage will be clear all of its discharges.

In case of Pitha Thalai Nokkadu, the following methods of Pranayama can be advised to patiants.

- Rhythmic Breathiny:
- Alternate breathing:

THERAPEUTIC ADVANTAGES:

Rhythimic breathing bring health to both the body and the mind. It allows more oxygen into the body, by this it eliminates anxiety by acting on the thalamus and the sympathetic nerve.

Alternate breathing helps to stabilize the mind and there by increases the mental faculties. It calms and purifies the nerves and hence helps to cure certain types of headache.

Suriya Bhedana brings the body temperature into equilibrium and as well as controls the function of the catabolism. The powers of digestion are increased. The nervous system is fortified. The sinuses are also cleared.

YOGA:

Yoga is regarded as a method that allows man to live a harmonious life. Favouring his spiritual progress through the control of body and mind.

The asanas are useful not only to revive the body but also to strengthen the nervous system and regenerate the glands, and also to cure physical and mental illness. They bring the human body under control of the mind.

Regarding Pitha Thalai Nokkadu, the following asanas can be advised to the patients

- Sarvangasanam
- Viparitha karani
- Halesana
- Vajjurasanam
- Usartasana
- Yoga muthirai

ANATOMY AND PHYSIOLOGY OF PNS

Paranasal sinuses are a group of spaces containing air that surround the nasal cavity. They are two groups:

Anterior group:

Frontal, maxillary, anterior ethmoidal air sinuses. This group drains into the middle meatus

Posterior group:

Posterior ethmoidal and sphenoidal. This group drains into the spheno-ethmoidal recess and the superior meatus.

DEVELOPMENT:

- Maxillary and ethmoid sinuses are present at birth. The frontal sinus recognizable at 6 years of age and the sphenoidal sinus is rudimentary at birth.
- Maxillary sinus appears as ectodermal depression above the uncinnate ridge on inferior turbinate, where it starts expanding laterally and grows further due to spaces vacated by erupting teeth. It is fully developed by the age of 25.
- Ethmoidal sinus is a small multiple ectodermal evaginations develop on lateral nasal wall and grows laterally into ethmoid bone.
- Frontal sinus develops at the antero-superior part of middle meatus from the frontal recess and deepens upwards gradually.

Sphenoid sinus appears in the postero-superior aspect of the nasal capsule as an ectodermal pit and develops by invagination of spheno-ethmoidal recess mucosa. Out of all paranasal sinuses it is the first sinus to reach full size.

HISTOLOGY OF NASAL CAVITY

Each wall of nasal cavity is divisible into three distinct regions,

- The vestibule of the nasal cavity lined by skin continuous on the exterior of the nose.
- Hair and Sebaceous glands are present.
- Receptors for smell are located in the olfactory mucosa that is confined to a relatively small area on superior nasal concha on the adjoining part of nasal septum.
- The rest of the wall is covered by respiratory mucosa which is lined by pseudo stratified ciliated columnar epithelium.

MAXILLARY SINUS

Maxillary sinus is also called antrum of Highmore. It is the largest one in the body of maxilla. It is sometimes referred as conductor of orchestra. It is pyramidal in shape and its apex directed into the zygomatic process of the maxilla and the base forms the lateral wall of nose.

Measurements- Height-33mm, Width-23mm, anteroposteriorly-34mm, and its capacity varies from 15 to 30 ml. Diameter of maxillary sinus ostia is 3-4mm. Ostia is situated high up in postero-lateral wall and opens into the middle meatus through the ethmoidal infundibulum. In 30% cases, accessory ostium also present that lies posterior to the normal ostium.

Lining

Maxillary sinus is linned by pseudo-stratified columnar ciliated epithelium which is thin and less vascular with few mucus glands.

Arterial supply is by branches of maxillary, greater palatine and facial arteries.

Venous drainage is by anterior facial vein and pterygoid venous plexus.

Nerve supply: Maxillary nerve through supra-alveolar, infra orbital and anterior palatine nerves. Secreto motor fibres relay through pterygopalatine ganglion.

FRONTAL SINUS

Frontal sinuses are 2 in number. They are of unequal in size and divided by a bony septum which is in midline.

Measurements- Height-3.16cm, Breadth-2.58cm and depth-1.8cm.

The sinus lies in a triangular area formed by a nasion behind superciliary arches and a point 3cm above nasion and the medial third of supra-orbital margin. It opens into the anterior part of middle meatus either through frontal-nasal duct or through ethmoidal infundibulum.

Blood and nerve supply: Frontal sinus is supplied by supra orbital artery, vein and nerve.

ETHMOIDAL SINUS

Ethmoidal sinuses number varies from 8 to 18 and these lie within the lateral part of ethmoid bone between the nasal cavity and the orbi. They give a honey comb appearance so called the ethmoidal labyrinth and each sinus is pyramidal in shape.

Measurements- Length 2.5 to 3 cm and width-1.5 cm, decreasing anteriorly to 0.5 cm.

These are dividing into two groups,

1. Anterior smaller group (but have numerous air cells) consisting of frontal cells,agger cells and bulbar cells which opens into upper part of hiatus semilunaris in middle meatus. Bulla ethmaedale is also called as middle ethmoidal group of sinuses.
2. Posterior group is larger (with few air cells). It opens into the superior meatus. Optic nerve lies close proximity to these cells.

Blood and nerve supply:

It is supplied by anterior and posterior branches of ophthalmic and sheno-palatine artery (which lies near to roof of the sinus and to be taken care of during ethmoidectomy).Venous drainage is by the corresponding veins. Nerve supply is by maxillary and ophthalmic nerve branches (naso ciliary branch) that forms the anterior and posterior ethmoidal nerves.

SPHENOID SINUS

Sphenoid sinuses are in the body of the sphenoid bone and one lies in the posterior part of nasal cavity. These are rudimentary at birth and begin to grow after the age of 3. Its capacity varies from 0.5ml to 30ml, with an average of 7.5ml.

Measurements- Height 1.8cm, depth 2cm and height-2cm.

Ostium lies in upper part of anterior wall and opens into the spheno ethmoidal recess. Bones of Bertin also called sphenoidal turbinates initially cover the anterior wall os sinuses and after 10 years fuse with it.

Types - Sellar, Presellar, Chonchal and Mixed with sellar.

Blood and nerve supply:

Sphenoidal sinus is supplied by Spheno-palatine and Posterior ethmoid arteries and drained by veins of nasal cavity. Nerves supplied by branches of spheno-palatine ganglion.

FEATURES OF PARANASAL SINUSES:

The paranasal sinuses are thought to serve the following functions,

1. Warming and moistening of inspired air may be partly done by large mucosal surfaces of these adjacent sinuses.
2. The air filled sinus cavities probably add resonance to the laryngeal voice.
3. The temperature buffers. It is regarded that these chambers probably protects the contents of orbit and cranial fossae from the intranasal temperature variation.

4. Sinus formation in the cranial bones helps in reducing the weight of the facial bones.
5. The sinus mucosa may act as a donor site for constructive procedures, e.g, for subglottic stenosis and implantation of maxillary sinus mucosa into the nasal cavity atrophic rhinitis.
6. They act as shock buffers.
7. Increases the olfactory area (in animals).
8. Provides mechanical rigidity to skull.
9. Pressure dampening.Secretion of mucus to keep nasal chambers moist.
10. Regulation of intra-nasal pressure.

Sinuses	Maxillary	Frontal	Ethmoidal	Sphenoidal
Numbers	2	2	8-18	2
Capacity	15ml	5-7ml	variable	3-6.5ml

COMMUNICATIONS:

FRONTAL SINUS:

It opens into the middle meatus at the anterior end of the hiatus semilunaris, either through the frontonasal duct or through the infundibulum. Usually the right and left sinuses are unequal in size separated by a thin plate of bone is lined with columnar epithelium. The sinuses are better developed in males than in females.

MAXILLARY SINUS:

It is lined with ciliated columnar epithelium and opens into the middle meatus of the nose which is in the lateral part of the hiatus semilunaris. Its opening situated just below the bulla ethmoidalis. The openings are near the roof than the floor of sinus and the opening is situated much higher than the floor of the sinus in disadvantageous

position for the natural drainage. It is provided richly with glands that are chiefly situated around the osteum.

ETHMOIDAL SINUS:

Each sinus opens into the spheno-ethmoidal recess and the superior meatus of nose.

PHYSIOLOGY OF THE NOSE

Respiratory function

- It provides airway for respiration.
- Filtration of the inspired air.
- Adjusts the temperature of he inspired air.
- Humidification of the inspired air.

Olfactory function.

Phonatory function. It provides the voice with a resonant quality.

Mucociliary Clearance (MCC) is an important defense mechanism through which both upper and lower airways cleanse their surface of inhaled pollutants, pathogens, allergen and mucus secreted by submucosal glands and goblet cells. This protective mechanism is especially important in sinuses and upper airways. Thus the removal of debris-laden mucus from the sinuses completely depends on MCC. In case of the lower airways MCC can be compensated by other mechanisms like coughing. The mucociliary apparatus consists three main functional components,

- The cilia on respiratory epithelium
- The mucus layer
- The underlying airway surface liquid layer.

PATHOPHYSIOLOGY OF SINUSITIS

The mucosas of sinuses show chronic inflammatory changes. Due to infection the cilia gets damaged, which results in inadequate drainage

of sinus cavity, particularly the maxillary sinus where the ostium is situated. The retained secretion leads to reinfection.

Periphlebitis and perilymphangitis may lead to polyp formation and oedema so called hypertrophic or polypoidal sinusitis. Sometimes there may metaplasia of ciliated columnar epithelium to the stratified squamous type with intersperced papillary hyperplastic epithelial and inflammatory cells producing a picture of papillary hypertrophic sinusitis.

Occasionally the chronic inflammatory process may induce atrophic changes in the sinus mucosa with increase in submucosal fibrous tissue (Atrophic Sinusitis).

SINUSITIS

Sinusitis is an infection that occurs if congestion or obstruction leads to bacterial growth in the paranasal sinuses. Among many causes of such congestion or obstruction are the common cold, allergies, and abnormalities in the nasal passage, certain medical conditions, and change in atmosphere. In any of these cases, sinusitis may develop as follows:

- Mucus drainage & airflow are blocked.
- Secretions build up, resulting in the growth of certain bacteria.
- The resulting infection, swelling, and inflammation leads to further blockage, which may cause the sinuses to close completely.

FORMS OF SINUSITIS

Sinusitis is classified based on duration as acute, subacute, or chronic, or recurrent.

- Acute: Less than 4 weeks
- Subacute: 4 - 12 weeks
- Chronic: 12 weeks or longer
- Recurrent: 3 or more acute episodes in 1 year

ACUTE SINUSITIS

DEFINITION:

It is acute infection or inflammation of the paranasal sinuses mucosa of less than 4 weeks duration. Commonly follows an attack rhinitis as in common cold or influenza when the bacteria invade as secondary organisms. Pansinusitis is applied to inflammation of all the paranasal sinuses, whereas involvement of individual sinus is named as

- Acute maxillary sinusitis
- Acute ethmoiditis
- Acute frontal sinusitis
- Acute sphenoiditis.

AETIOLOGY:

1. Infections:
   - Nasal infections- Hay fever, Acute rhinitis associated with common cold, etc
   - Pharyngeal Infections- Tonsillitis, Adenoiditis in children
   - Tooth infections- Chronic dental infections, Periodontal abscess and sometimes tooth extraction
2. Swimming and bathing
3. Trauma to the sinuses
4. General diseases like influenza, whooping cough, pneumonia

PREDISPOSING FACTORS:

- A nasal passage abnormality-deviated nasal septum, nasal polyps or tumours
- Dental infections, particularly molar and premolar
- Blood borne infections
- Infected sputum in chronic suppurative lung disease
- Medical conditions like Cystic fibrosis, gastro-esophageal reflux disease, antibody deficiency, an immune system disorder
- Regular exposure to pollutants such as cigarette smoke
- Enlarged and infected adenoids in children

BACTERIOLOGY:

Viruses:

- Rhino virus
- Parainfluenzae I and II
- Coxsackie A21Respiratory syncitial virus
- Enteric cytopathogenic human orphan (ECHO) 28

Bacteria:

- H. influenza
- Pneumococci

- Staphylococci
- Streptococci
- Escherichia coli
- Bacillus pfeiffer
- B.friedlander
- Micrococcus catarrhalis

Specific infections:

- Due to fungi, tuberculosis and leprosy.

BACTERIA

The Role of Bacteria. The role of bacteria or other infectious organisms is complicated incase of chronic sinusitis. They may have a direct or indirect role. Bacteria may live in the sinuses without causing any infection (called colonization). In some patients, bacteria play no role at all.

The bacteria most commonly implicated in sinusitis include:

- *Moraxella catarrhalis*. Over 75% of all children harbor this bacterium, which causes about 25% of sinusitis cases.
- *Streptococcus pneumoniae*. This bacterium is found in up to 45% of adults and children with sinusitis.
- *H. influenzae* a common bacterium associated with many upper respiratory tract infections. This bacterium causes about 25% of sinusitis in children. Studies have reported, presence of this bacterium in up to a 3rd of adult sinusitis cases.

Other possible bacterial culprits include:

- Other streptococcal strains
- *Staphylococcus aureus*
- *P. aeruginosa*, *Klebsiella pneumoniae*, *Proteus mirabilis*, *Enterobacter* species, and *Escherichia coli*
- *Fusobacterium nucleatum* and *Prevotella intermedia*)

FUNGAL SINUSITIS

Fungi are uncommon cause of sinusitis but now the incidence of such infections is increasing. At least 5 - 10% of chronic rhinosinusitis patients may have allergic fungal sinusitis.

Many patients with chronic sinusitis may be colonized with fungi and this does not necessarily mean that the patient has a fungal infection causing symptoms. Studies suggest, some people those suffer from chronic sinusitis have an inflammatory and immune response to fungi and may benefit from anti-fungal treatment.

Fungi involved in sinusitis include:

- *Aspergillus* is the most common cause of all forms of fungal sinusitis.
- There have been a few reports of fungal sinusitis caused by *Metarrhizium anisopliae*, which is used in biological insect control.
- Other fungi include *Curvularia, Bipolaris Alternaria, Dreschslera, Cryptococcus, Candida, Sporothrix, Exserohilum*, and *Mucormycosis.*
- There have been a few reports of fungal sinusitis caused by *Metarrhizium anisopliae*, which is used in biological insect control.
- There are four categories of fungal sinusitis:
- Acute or invasive fungal sinusitis. People with diabetes and compromised immune systems are most likely to be infected.
- Chronic or indolent fungal sinusitis. This is generally found outside the U.S., most commonly in the northern India and Sudan.
- Fungus ball (mycetoma). This fungal sinusitis usally occurs in one sinus and it is noninvasive, most often the maxillary sinus.
- Allergic fungal sinusitis. This fungal sinusitis typically occurs because of an allergy to the fungus Aspergillus. In such patients, a

peanut butter-like fungal growth occurs in the sinus cavities which may cause nasal passage obstruction and erosion of the bones.

Fungal infections can be very serious. Both chronic and acute fungal sinusitis requires immediate treatment.

Fungal infections should be suspected sinusitis patients who also have diabetes, AIDS, leukemia or other conditions that cause impairment in the immune system. Fungal infections can also occur in people with healthy immune systems, but they are very less common.

PATHOLOGY:

Passes through five stages,

- Catarrhal stage
- Suppurative Stage
- Exudative stage
- Stage of complications
- Stage of resolution.

Clinically it may be catarrhal type or suppurative type.

CLINICAL FEATURES:

General Symptoms:

- Malaise
- Headache
- Facial pain
- Sore throat
- Peri-orbital edema
- Fever (not very high).

Local symptoms:

The local symptoms depends upon the sinus involved, the most important feature being pain. In maxillary sinusitis pain is felt in the cheeks below the eyes, it may be referred to the teeth. Pain is aggravated on stooping or coughing.

- In ethmoiditis, the pain is localised over the nasal bridge and behind the eyes.
- In frontal sinusitis, the pain localised over the forehead and the patient complains of headache. The pain is severe in morning and gradually subsides towards noon.
- In sphenoidal infection, the pain referred to the vertex or occiput.
- Inflammation of more than one sinus is marked by pain over all sinuses.

Other symptoms:

- Feeling of discomfort in postnasal space
- Sneezing
- Nasal obstruction
- Nasal or postnasal discharge or drip
- Loss of sense of smell
- Loss of vocal resonance
- Cough

Signs:

- Swelling of cheek with flushing of cheek which may spread into lower lid in maxillary sinusitis. In frontal sinusitis the upper lid may be swollen. Ethmoiditis may show swelling at the inner canthus of same eye.
- Tenderness over the affected sinus

  Cheek: Maxillary sinusitis - Cheek

  Frontal sinusitis - Floor of sinus

  Ethmoids - Inner canthus

Anterior rhinoscopy: Red, shiny and swollen mucous membrane near the ostium of the sinus and trickle of pus may also be seen.

SYMPTOMS INDICATING MEDICAL EMERGENCY

- Increasing severity of symptoms
- Swelling and drooping eyelid
- Vision changes
- Loss of eye movement (possible orbital infection, which is in the eye socket)
- Pupil fixed or dilated
- Development of severe headache, altered vision
- Symptoms spreading to both sides of face (may indicate blood clot)
- A soft swelling over the bone (may indicate bone infection)
- Mild personality or mental changes (may indicate spread of infection to brain)

YOUNG CHILDREN AND SINUSITIS

Before maturation of the immune system, most infants are susceptible to respiratory infections, with frequency of one cold every 1 - 2 months. Young children are more prone to colds and may have 8 - 12 bouts a year. Smaller nasal sinus passages make children more prone to upper respiratory tract infections than the older and adults. Ear infections like otitis media are also associated with sinusitis. Nevertheless, true sinusitis is rare in children under the age of 9.

THE ELDERLY AND SINUSITIS

The elderly are at more risk for sinusitis. Their nasal passages are tend to dry out with age. In addition to that, the cartilage also weakens, causing changes in airflow and also have diminished cough and gag reflexes and faltering immune systems, so are at high risk for serious respiratory infections than are young and middle-aged adults.

CHRONIC SINUSITIS

Recurrent acute sinusitis and chronic sinusitis tend to take the following course:

- Any of the sinusitis symptoms listed previously may present
- Symptoms are more vague and generalized than acute sinusitis.
- Fever may be just low grade or normal.
- Symptoms of sinusitis last for 12 weeks or longer.
- Symptoms occur throughout the year or even during non-allergy seasons

CONDITIONS THAT CAUSE CHRONIC OR RECURRENT SINUSITIS

Chronic or recurrent acute sinusitis typically results from one of the following conditions:

- Untreated acute sinusitis that results in damage to the mucus membranes.
- Chronic medical disorders which cause inflammation in the airways or persistent thickened stagnant mucus (such as diabetes, AIDS, hypothyroidism, cystic fibrosis, other disorders of the immune system, Kartagener's syndrome, and Wegener's granulomatosis)
- Structural abnormalities and allergic reaction to fungi.
- Chronic or recurrent acute sinusitis may be a lifelong condition.

DIAGNOSIS

Patients should visit a doctor if they have sinusitis symptoms that not clear up within a few days, accompanied by high fever or acute illness. However, only one-half to two-thirds of patients with such symptoms actually have sinusitis.

The first goal in diagnosing sinusitis is to rule out the possible causes, and then determine:

- The site where the infection occurred
- Whether it is acute or chronic
- The organism that cause the infection (if possible)

DIAGNOSTIC APPROACH TO ACUTE SINUSITIS

Medical History. The patient should describe all symptoms like as nasal discharge and specific pain in head and the face, including eye and tooth ache. After assessing symptoms, the doctor should take a thorough medical history:

- Any previous history of allergies or headaches
- Recent upper respiratory infection (colds, infection,flus) and their duration
- History of sinusitis episodes that is not responsive to antibiotic treatment. (In such cases, the doctor will diagnose chronic or recurrent acute sinusitis and he may refer the patient to a specialist.)
- Exposure to cigarette smoke or anyother environmental pollutants
- Recent travel
- Recent dental procedures
- Any structural abnormalities and injuries in the nose and face
- History of medical conditions, as chronic fatigue syndrome or fibromyalgia, which can cause tender areas in the face or sinus regions.
- Any family history of allergies, immune disorders, immotile cilia syndrome or cystic fibrosis.
- In small children with symptomsof sinusitis, whether they attend a day care center or nursery school

INVESTIGATIONS:

- Haematology- TC and DC are increased.
- X-Ray PNS- to demonstrate fluid level, pus or opacity.
- CT Scan- Coronal CT may show thickening of mucosa or opacification with occlusion of maxillary infundibulum.
- Culture sensitivity Test

- Trans illumination Test

Maxillary sinus- absence of infra orbital crescent of light and papillary glow absence indicate sinusitis.

Frontal sinus illumination is not very informative.

PHYSICAL EXAMINATION

Press the forehead and cheekbones of the patient to check for tenderness and other signs of sinusitis, including nasal discharge that is yellow to yellow-green. Also check the nasal passages using a device with help of a bright light to check the mucus and look for any other structural abnormalities.

NASAL ENDOSCOPY (RHINOSCOPY)

Rhinoscopy allows detection of very small abnormalities in the nasal passages and can evaluate structural problems of the nasal septum. As well as it evaluate the presence of soft tissue masses such as polyps. It can also identify small amounts of pus draining from the opening of sinus. Cultures can also be done from samples removed using endoscopy. It is also used for treating sinusitis. Nasal endoscopy, or rhinoscopy, involves the insertion of a flexible tube with a fiberoptic light into the nasal passage.

IMAGING TECHNIQUES

Computer Tomography. Computed tomography (CT) scanning is the best method for the view of the paranasal sinuses. There is little relationship between symptoms and findings of abnormalities on a CT scan. CT scans are recommended only for acute sinusitis, if there is a severe infection, or a high risk for complications. CT scans are useful for surgeons as a guide during surgery in diagnosing chronic or recurrent acute sinusitis. They show swelling and inflammation and the extent of the infection, including the deeply hidden air chambers that are missed by

x-rays and nasal endoscopy. They can also detect the presence of fungal infections.

X-Rays. Until the availability of CT scans and endoscopy, x-rays were commonly used. They are not as accurate but able in identifying abnormalities in the sinuses. For example, more than one x-ray is needed in diagnosing frontal and sphenoid sinusitis. X-rays do not detect ethmoid sinusitis at all and this area can be the primary site of infection that spreads to the maxillary or frontal sinuses.

Magnetic Resonance Imaging. Magnetic resonance imaging (MRI) is not as effective as CT in defining the paranasal anatomy. Therefore is not typically used to image the sinuses. It is also more expensive than CT, but it can help to rule out fungal sinusitis and may help to differentiate between inflammatory disease, complications within the skull and malignant tumors. It may also useful for showing soft tissue involvement.

SINUS PUNCTURE AND BACTERIAL CULTURE

The gold standard for diagnosing a bacterial sinus infection is sinus puncture with bacterial culture. It is invasive and it is performed only when antibiotics have not worked. Sinus puncture involves withdrawal of a small amount of fluid from the sinuses using a needle. It is performed by a specialist and requires a local anesthetic. The fluid is then cultured to determine the type of bacteria that causing sinusitis.

DIFFERENTIAL DIAGNOSIS:

- Dental caries, neuralgias, apical infections or abscess.
- Naso-pharyngeal tumours
- Brainstem lesions
- Temporo mandibular neuralgia (Costen's symdrome, due to stress and strain of tympanic membrane.)
- Trigeminal neuralgia(it is severe and paroxysmal)
- Migraine- unilateral and frontal pain

- Neoplasm of the sinuses.
- Temporal arteritis- pain over the course of temporal artery that is palpable and tender to touch.
- Herpetic and post herpetic neuralgia may simulate sinusitis
- Insect bite

TREATMENT:

PREVENTION:

- Avoiding of colds and influenza is the best way to prevent sinusitis. If you are not able to avoid them, the next best way is to effectively treat colds and influenza.
- Avoid upper respiratory tract infections.
- Avoid cigarette smoke and polluted air.
- Carefully manage of allergies.
- Use a humidifier.

GOOD HYGIENE AND PREVENTING TRANSMISSION

Colds and flu primarily spreads when an infected person coughs or sneezes. The most common method for transmitting cold is by shaking hands. Everyone should wash their hands always before eating and after going outside. Ordinary soap is sufficient. Neverless hand cleaners which contain an alcohol-based gel also effective for daily use and even may kill cold viruses. Antibacterial soaps have little protection, particularly against viruses. Wiping surfaces with a solution which contains 10 parts of water to one part bleach is more effective in killing viruses.

GENERAL TREATMENT APPROACHES

The primary objectives for treating sinusitis are reduction of swelling, draining of the sinuses, eradication of infection and ensuring that the sinuses open. Fewer than half of patients reporting symptoms of sinusitis need aggressive treatment. Home remedies can be very useful.

Treatment of Acute Sinusitis.

- Support treatment with only saline nasal irrigation, antihistamines, expectorants and decongestants are appropriate for a minimum of 7 - 10 days for those patients with mild-to-moderate symptoms.
- Antibiotics are not helpful for mild-to-moderate symptoms, so they are not being prescribed atleast for the first 7 days.

Treatment of Chronic Sinusitis.

- A broad-spectrum antibiotic (that can eliminate a wide range of bacteria) may helpful. Some patients may benefit from prolonged therapy.
- A nasal corticosteroid spray. Some doctors also recommend oral corticosteroids (such as prednisone) who do not respond to nasal corticosteroids or for patients who have nasal polyps.
- Prednisone is also used for patients with allergic fungal sinusitis.
- The often needed on an ongoing basis is saline nasal irrigation.
- When the condition improves after 1 - 2 months, antibiotics are stopped. The patient should continue both the saline nasal solutions and the steroid. If there is no improvement, surgery may be considered. For some patients with chronic sinusitis, however, the condition is not curable, and in such cases the goal of treatment is to improve the quality of life.
- A thorough diagnosis should be performed to rule out the underlying conditions, including but not limited to allergies, asthma, structural problems in the nasal passages, gastroesophageal reflux disorder and any immune problems. If any primary trigger can be identified for chronic sinusitis, it should be treated or controlled.

HYDRATION

Home remedies that hydrate and open sinuses may be the only treatment necessary for mild sinusitis.

- To ease the discomforts of the common cold drinking plenty of fluids and rest when needed is still the best bit of advice. The best fluid is water and helps in lubricating the mucus membranes.
- Chicken soup indeed helps aches and congestion. Ginger tea, hot tea with honey, lemon and fruit juice may all be helpful.
- Spicy foods which contain hot peppers or horseradish may help to clear sinuses.
- Steam inhalation 2 - 4 times a day is extremely helpful. A mentholated or other aromatic preparation may used for it. Long, steamy showers, vaporizers, and facial saunas are alternatives.

NASAL WASH

A Nasal wash can help in removing mucus from the nose. Perform the nasal wash several times a day. Researchers have reported, daily irrigation of the nasal passages with a hypertonic saline solution relieves sinusitis symptoms and also reduces antibiotic use.

Prophylactic Treatment:

- Strengthen first line of defense i.e. mucous/ ciliary blanket.
- Good ventilation, sunshine and proper humidity.
- Good rich diet in vitamins
- Avoid flying and swimming with cold
- Use of vaccines (autogenous vaccines).

Surgical Treatment:

- Limited surgery is also done in case of impending complications such as orbital cellulitis.

COMPLICATIONS OF ACUTE SINUSITIS:

- Osteomyelitis of maxilla and frontal bone
- Chronic sinusitis
- Orbital cellulitis
- Orbital abscess formation
- Intracranial complications like cavernous sinus thrombosis, meningitis and intracranial abscess.
- Pharyngitis
- Laryngitis / Tracheobronchitis
- Middle ear infections
- Mucocele / Pyocele
- Oroantral fistula

INCREASED ASTHMA SEVERITY

There is an unclear relationship between sinusitis and asthma. There are a number of theories proposed for a causal or shared association between them.

EFFECTS ON QUALITY OF LIFE

Pain, fatigue and other symptoms of chronic sinusitis can have significant effects in quality of life. This condition can impair normal activity, reduce attendance in work or school and cause emotional distress. According to the American Academy of Allergy, Asthma, and Immunology, the average patient with sinusitis misses about 4 work days per year, and the sinusitis is one of the top 10 medical conditions that mostly affect American employers.

MATERIALS AND METHODS

Clinical Study:

The Clinical study of Pitha Thalai Nokkadu was undertaken in post Graduate department of pothumaruthuvam, Govt Siddha Medical College, Palayamkottai.

20 patients were admitted for study period. According to their severity they were admitted as In-Patients and followed up as Out-patients.

The medicine was also subjected to trial with 20 Out-patients.

Selection of patients:

The patients were selected on the basis of the clinical findings of Sneezing, Rhinitis, Headache, Fasial pain, Lacrimation and fever.

Detailed history of the patient contains past, personal and family histories, diet, habits, occupational history, socio-economic status, exposure to chemical hazards, cold, smoke, and dust.

Siddha Diagnosis:

Siddha method of diagnosis with the following parameters, such as Thegam, Kaalam, Gunam, Mukkutram nilaigal, Envagai thervugal, Nilam, Kaalam, UdalKattugal,poriyal arithal, Pulanal arithal, Vinathal etc.

The diagnosis of Pitha Thalai Nokkadu which correlates with sinusitis also made by physical examination of the patients as well as laboratory and radiological investigation.

Investigations:

All cases were subjected to investigations that include TC, DC, ESR, Hb, Blood Sugar, urea and cholesterol. Urine analysis for Albumin, Sugar, Deposits in the laboratory of Govt. Siddha Medical College Hospital.

Radiological Investigation:

X-ray skull PNS was taken to all patients to rule out sinusitis.

Few patients were taken CT-scan.

These parameters were usefull in assessing the progrees and prognosis of the disease during the period of treatment.

Management:

According to tridhosa theory, laxatives are given first. So for this, "Nilavagai Chooranam" is recommended, 10gm with hot water at bed time was given before starting the specific treatment.

Treatment:

The trial medicine used in the present clinical study is Peenisathuku Chooranam 2gm (twice daily with honey, after meals). All the patients were advised to follow the pathiyam (Dietary regimen) and best recovery of "Pitha Thalai Nokkadu".

Reference:

Sarabendrar vaithiya muraigal(siroroha sigichai).

Evalution of trial medicine:

The trial medicine was subjected to biochemical and pharmacological analysis in the respective laboratories of Govt. Siddha Medical College, Palayamkottai.

The microbiological study was made in Malar Microbiological Diagnostic Centre, Palayakottai.

The observations were made from all In-patients and Out-patients. This results and observations were recorded properly in profoma.

At the time of discharge all were advised to follow further treatment in Out-patients department of Pothu Maruthuvam. Then they were advised to follow the personal hygiene, diet control, adequate intake of water and mental relaxation by meditation and yoga etc.

OBSERVATION AND RESULTS

The results were observed regarding the following criteria by clinical study on 20 in patients and 20 out patients.

- Sex distribution
- Age distribution
- Kalam
- Constitution of body
- Gunam
- Religion
- Paruvam
- Thinai
- Occupation
- Socio-economic status
- Aetiology
- Food habit
- Family history
- Habit
- Clinical manifestation
- Other systemic involvement
- Mode of onset
- Duration of illness
- Imporigal(Gnandhiriyam)
- Kanmenthiriyam
- Mukkutram
    - Derangement of vatham
    - Derangement of pitham
    - Derangement of kabam
- Ezhu udal kattugal

- Envagai thervugal
- Neer kuri
- Nei kuri
- Laboratory assessment
- Radiological assessment
- Gradiation of results
- Clinical assessment

1. AGE DISTRIBUTION.

Table 1 illustrates the distribution of age.

Sl. No	Age groups in years	No. of .cases		Percentage %	
		OP	IP	OP	IP
1.	13 to 20	-	-	-	-
2.	21 to 30	9	2	45%	10%
3.	31 to 40	5	1	25%	5%
4.	41 to 50	4	4	20%	20%
5.	51 to 60	2	13	10%	65%

From the table it is observed that the highest incidence of Pitha Thalai Nokkadu was among the age group of 51-60.

2. SEX DISTRIBUTION.

Table 2 illustrates the distribution of sex

Sl. No	Sex	No. of Cases		Percentage %	
		OP	IP	OP	IP
1.	Male	10	9	50%	45%
2.	Female	10	11	50%	55%

From the table it is observed that Pitha Thalai Nokkadu occured more among female population.

3. KAALAM

Table 3 illustrates the distribution of Kaalam

Sl. No	Kaalam	No. of cases		Percentage %	
		OP	IP	OP	IP
1.	Vatham	11	3	55%	15%
2.	Pitham	9	17	45%	85%
3.	Kabam	-	-	-	-

The table showed that the highest incidence of Pitha Thalai Nokkadu in pitha Kaalam.

4. CONSTITUTION OF BODY

Table 4 illustrates the distribution of Thegi

Sl. No	Constitution of body	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Vatha thegi	7	8	35%	40%
2	Pitha thegi	4	3	20%	15%
3.	Kaba thegi	4	7	20%	35%
4.	Thontha thegi	5	2	25%	10%

From the table & it is observed that vatha thegis registered high incidence of Pitha Thalai Nokkadu.

5. GUNAM

Table 5 illustrates the distribution of gunam

Sl. No.	Gunam	No. of cases		Percentage %	
		OP	IP	OP	IP
1.	Sathuva Gunam	-	-	-	-
2.	Rajo Gunam	20	20	100%	100%
3.	Thamo Gunam	-	-	-	-

In both OP and IP study cent percentage belongs to Rajo Gunam.

6. RELIGION

Table 6 illustrates the distribution of Religion

Sl. No.	Religion	No. of. Cases		Percentage%	
		OP	IP	OP	IP
1.	Hindu	18	16	90%	80%
2.	Christian	2	2	10%	10%
3.	Muslim	0	2	-	10%

From the table it is observed that Pitha Thalai Nokkadu occured more among in Hindus.

7. PARUVAKAALAM

Table 7 illustrates the distribution of the disease among the Paruvakaalam.

Sl. No.	Paruvakaalam	No. of Cases		Percentage%	
		OP	IP	OP	IP
1	Elavenil Kaalam	-	-	-	-
2	Muthuvenil kaalam	12	2	60%	10%
3	Kaar Kaalam	4	9	20%	45%
4	Koothir Kaalm	4	9	20%	45%
5	Munpani Kaalm	-	-	-	-
6	Pinpani Kaalam	-	-	-	-

The table showed the prevalence of disease under Kaar and koothir kaalam.

8. THINAI.

Table 8 illustrates the distribution of the disease among the Thinai

Sl. No.	Thinai	No. of Cases		Percentage%	
		OP	IP	OP	IP
1.	Kurinji	-	1	-	5%
2.	Mullai	-	-	-	-
3.	Marutham	19	15	95%	75%
4.	Neithal	1	4	5%	20%
5.	Paalai	-	-	-	-

The table indicated that marutham was the place of incidence of the disease.

9. OCCUPATION

Table 9 illustrates the distribution of occupation among the patients.

Sl. No.	Occupation	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Farmer	6	4	30%	20%
2.	Students	4	1	20%	5%
3.	Beedi Maker	-	1	-	5%
4.	House Wife	3	5	15%	25%
5.	Automobile worker	2	-	10%	-
6.	Chemical exposure	1	2	5%	10%
7.	Sportsman	-	1	-	5%
8.	Cement factory	1	3	5%	15%
9.	Grocery stores	1	1	5%	5%
10.	Teacher	1	2	5%	10%
11.	Poultary worker	1	-	5%	-

The table indicated increased incidence of the disease in farmer and house wife.

10. SOCIO-ECONOMIC STATUS.

Table 10 illustrates the socio economic status of the patients.

Sl. No.	Socio- Economic Status	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Rich	5	-	25%	-
2.	Middle class	7	6	35%	30%
3.	Poor	8	14	40%	70%

From the table it is observed that the disease occured more among poor.

11. AETIOLOGICAL FACTORS.

Table 11 illustrates the Aetiological factors for disease.

Sl. No.	Aetiological Factors	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Occupation	5	5	25%	25%
2.	Dust & Cold exposure	7	8	35%	40%
3.	Husk of grains & Air pollution	8	7	40%	35%

The above table showed dust and cold exposure and husk of grains 7 air pollution were the main aetiological factors among the Patients.

12. FOOD HABITS.

Table 12 illustrates the distribution of diet among the patients.

Sl. No.	Food habits	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Vegetarian diet	5	3	25%	15%
2.	Mixed diet	15	17	75%	85%

The table showed that highest incidence of the disease for the patients with mixed diet.

13. FAMIY HISTORY

Table 13 illustrates the distribution of family history.

Sl. No.	Family History	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Positive	3	1	15%	5%
2.	Negative	17	19	85%	95%

In both op and Ip 90% have no family history.

14. HABITS:

Table 14 illustrates the distribution of Habits

Sl. No.	Habit	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Smoker	7	5	35%	25%
2.	Tobacco chewer	2	3	10%	15%
3.	Betel nut chewer	1	1	5%	5%
4.	Alcoholic	2	1	10%	5%
5.	No such habits	8	10	40%	50%

The table showed that highest incidence of the disease occurs in the smokers.

15. CLINICAL MANIFESTATION:

Table 15 illustrates the distribution of clinical manifestation

Sl. No.	Symptoms	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Sneezing	18	15	90%	75%
2.	Rhinitis	14	10	70%	50%
3.	Nasal congestion	12	14	60%	70%
4.	Headache	20	20	100%	100%
5.	Lacrimation	4	3	20%	15%
6.	Facial pain	12	10	60%	50
7.	Rhinorrhoea	5	2	25%	10%
8.	Otalgia	8	9	40%	45%

The table shows that most of the patients had headache, sneezing and nasal congestion.

16. OTHER SYSTEM INVOLVEMENT

Table 16 illustrates the distribution of co existing symptoms involving other systems.

Sl. No.	Other system involvement	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Cardiovascular System	-	-	-	-
2.	Gastro Intestinal System	4	2	20%	10%
3.	Musculo Skeletal System	3	4	15%	20%
4.	Central Nervous System	-	-	-	-

The table showed that Musculo skeletal system & Gastro skeletal system were affected more than other system.

17. MODE OF ONSET

Table 17 illustrates the distribution of Mode of onset of the disease.

Sl. No.	Mode of onset	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Acute	10	5	50%	25%
2.	Chronic	10	15	50%	75%

The table showed that the mode of onset was both acute and chronic in Out-patients. Among inpatients the mode of onset was chronic.

18. DURATION OF ILLNESS

Table 18 illustrates the distribution of duration of illness.

Sl. No.	Duration of illness	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Upto 6 months	7	11	65%	55%
2.	6 months – 2 years	10	9	10%	45%
3.	2 years – 6 years	3	-	15%	-

Among the patients the highest incidence for the duration of illness is upto 6 months.

19. IMPORIGAL (GNANENDHIRIYAM)

Table 19 illustrates the distribution of disease with Imporigal.

Sl. No.	Imporigal (Gnanendhiriyam)	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Mei	2	3	10%	15%
2.	Vai	1	-	5%	-
3.	Kann	3	4	15%	20%
4.	Mookku	16	18	80%	90%
5.	Sevi	5	3	25%	15%

The table showed that Mookku was affected in most of the patient.

20. KANMENTHIRIYAM

Table 20 illustrates the distribution of disease with Kanmenthiriyam.

Sl. No.	Kanmenthiriyam	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Kai	-	1	-	5%
2.	Kaal	3	3	15%	15%
3.	Vai	1	-	5%	-
4.	Eruvai	8	7	40%	35%
5.	Karuvai	-	-	-	-

The table showed that Eruvai was affected in most of the patients

21. MUKKUTRAM

21. a. Derangement of vatham.

Table 21.a illustrates the distribution of vatham.

Sl. No.	Vatham	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Piraanan	7	13	35%	65%
2.	Abaanan	4	2	20%	10%
3.	Viyaanan	-	-	-	-
4.	Uthaanan	10	19	50%	95%
5.	Samaanan	15	17	75%	85%
6.	Naagan	6	4	30%	20%
7.	Koorman	18	17	90%	85%
8.	Kirukaran	17	18	85%	90%
9.	Devaththan	4	3	20%	15%
10.	Dhananjayan	-	-	-	-

In all the In patients & Out patients Kirukaran, Koorman & Samaanan were more affected than others.

21. b. Derangement of pitham.

Table 21. b illustrates the distribution of pitham.

Sl. No.	Pitham	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Anarpitham	10	14	50%	70%
2.	Ranjagam	-	-	-	-
3.	Sathagam	12	10	60%	50%
4.	Prasagam	-	-	-	-
5.	Aalosagam	5	-	25%	-

The table shows most of the patients affected with Anarpitham.

21. c. Derangement of Kabam.

Table 21.c. illustrates the distribution of Kabam.

Sl. No.	Kabam	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Avalambagam	20	20	100%	100%
2.	Kiletham	4	7	20%	35%
3.	Pothagam	-	-	-	-
4.	Tharpagam	15	12	75%	60%
5.	Santhigam	4	3	20%	15%

The table showed that the Avalambagam was affected in all the patients in this disease.

22. Ezhu udal kattugal

Table 22. Illustrates the distribution of derangement of ezhu udal kattugal.

Sl. No.	Udal kattugal	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Saaram	20	20	100%	100%
2.	Senneer	4	7	20%	35%
3.	Oon	4	3	20%	15%
4.	Kozhuppu	2	4	10%	20%
5.	Enbu	1	6	5%	30%
6.	Moolai	-	-	-	-
7.	Sukkilam/suronitham	-	-	-	-

The table showed that Saaram was more affected in all the patients in this disease.

23. **ENVAGAI THERVUAL**

Table 23 illustrates the distribution of envagai thervugal.

Sl. No.	Envagai thervugal	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Naadi (Thontha Naadi)				
	1. Vadha pitham	2	8	10%	40%
	2. Vadha kabam	-	-	-	-
	3. Pitha vadham	12	7	60%	35%
	4. Pitha kabam	2	3	10%	5%
	5. Kaba vadham	-	-	-	-
	6. Kaba pitham	4	2	20%	10%
2.	Sparisam	2	1	5%	10%
3.	Naa	6	3	30%	15%
4.	Niram	4	3	20%	15%
5.	Mozhi	5	4	25%	20%
6.	Vizhi	11	8	55%	40%
7.	Malam	1	2	5%	10%
8.	Moothiram	-	1	-	5%

In Naadi Pitham vatham showed higher frequency than the others. The table showed Vizhi was affected in most of the patients.

24. NEER KURI

Table 24 illustrates the distribution of Neer kuri.

Sl. No.	Neer kuri	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Niram	-	-	-	-
2.	Manam	-	-	-	-
3.	Edai	-	-	-	-
4.	Nurai	-	-	-	-
5.	Enjal	-	-	-	-

The table showed that Niram, Manam, Edai, Nurai and Enjal were not affected.

25. NEI KURI

Table 25 illustrates the distribution of Nei kuri.

Sl. No.	Nei Kuri	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Vatha Neer	4	5	20%	25%
2.	Pitha Neer	2	-	10%	-
3.	Kaba Neer	13	15	65%	75%
4.	Thontha Neer	1	-	5%	-

The table showed that Kaba Neer was found in most of the cases.

26. Radiological Analysis

Table 26 illustrates the distribution of Radiological Analysis

S.No.1	X-Ray skull PNS view	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Frontal sinusitis	7	11	35%	55%
2.	L.Maxillary sinusitis	5	-	10%	-
3.	R.Maxillary sinusitis	4	7	20%	35%
4.	Ethmoidal sinusitis	-	-	-	-
5.	Sphenoid sinusitis	-	-	-	-
6.	DNS	3	2	15%	10%

27. GRADATION OF RESULTS. (Fig H)

Table 27 illustrates the Gradation of results

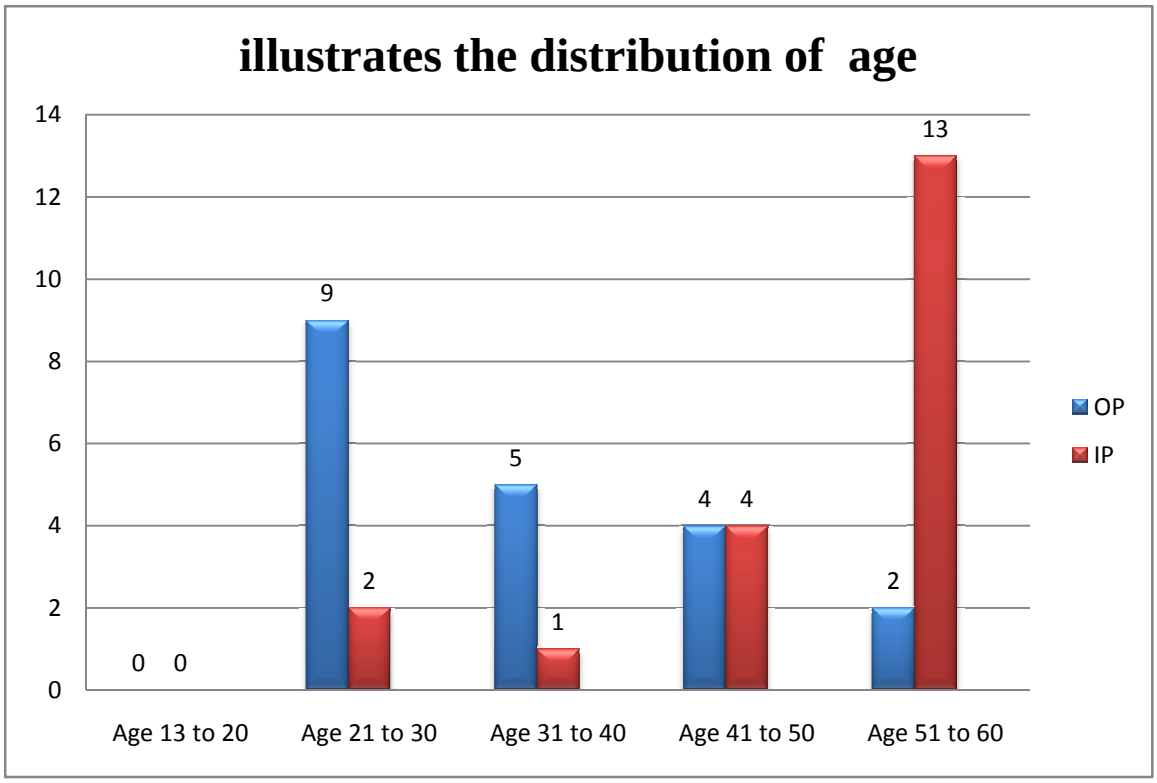
Sl. No.	Gradation of Results	No. of cases		Percentage%	
		OP	IP	OP	IP
1.	Good	18	15	90%	75%
2.	Moderate	2	4	10%	20%
3.	Poor	-	1	-	5%

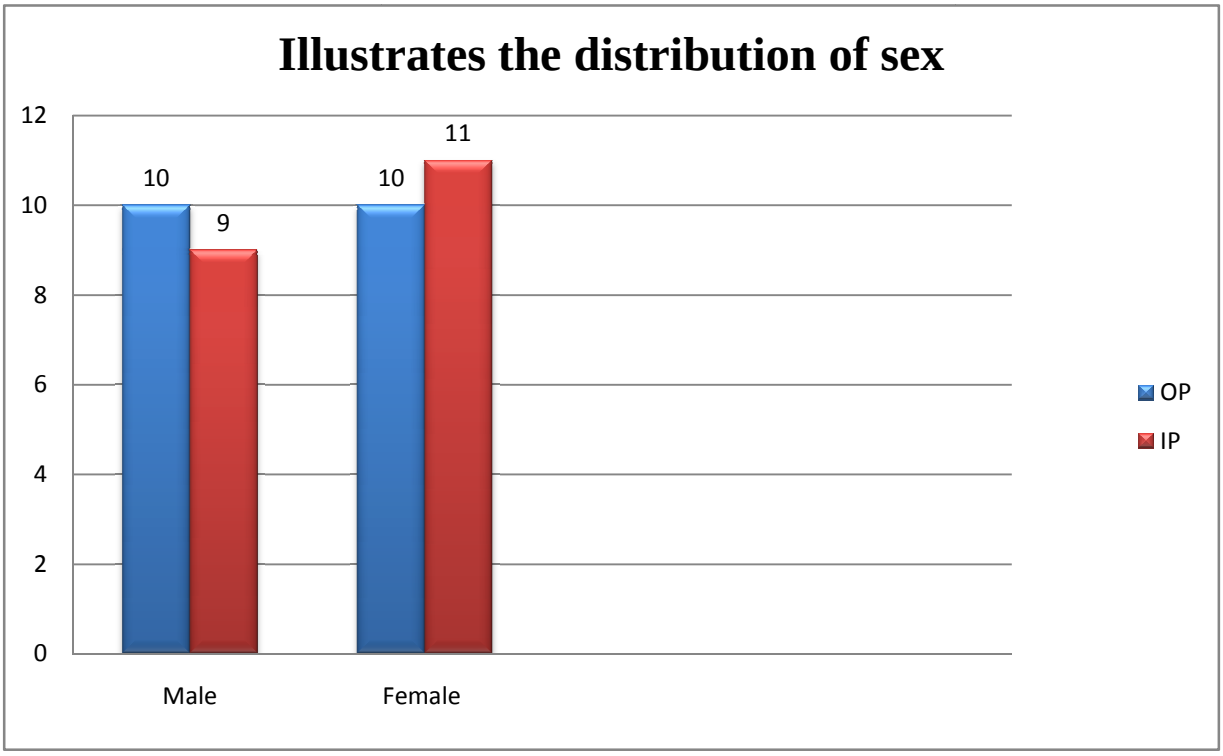
In Ip study

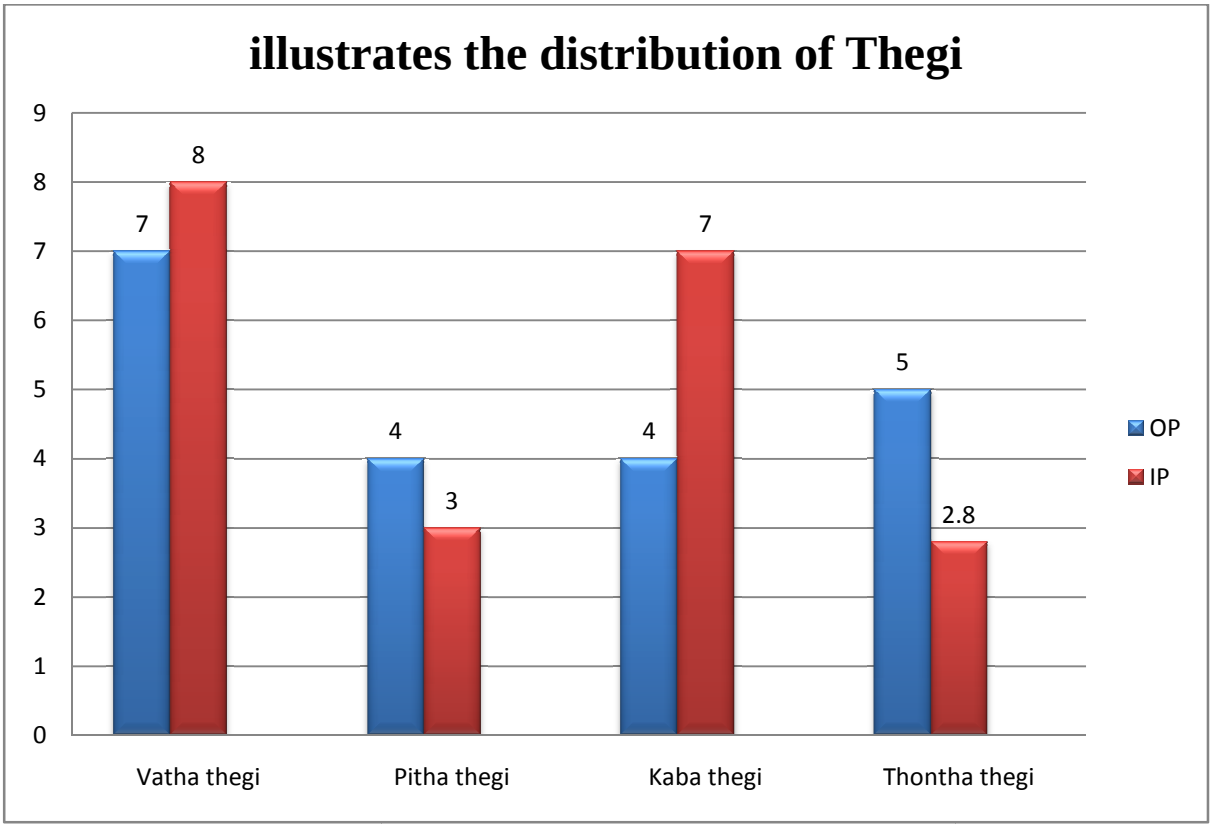
75% of cases showed Good response. 20% of cases showed Moderate response and 5% of cases showed Poor response.

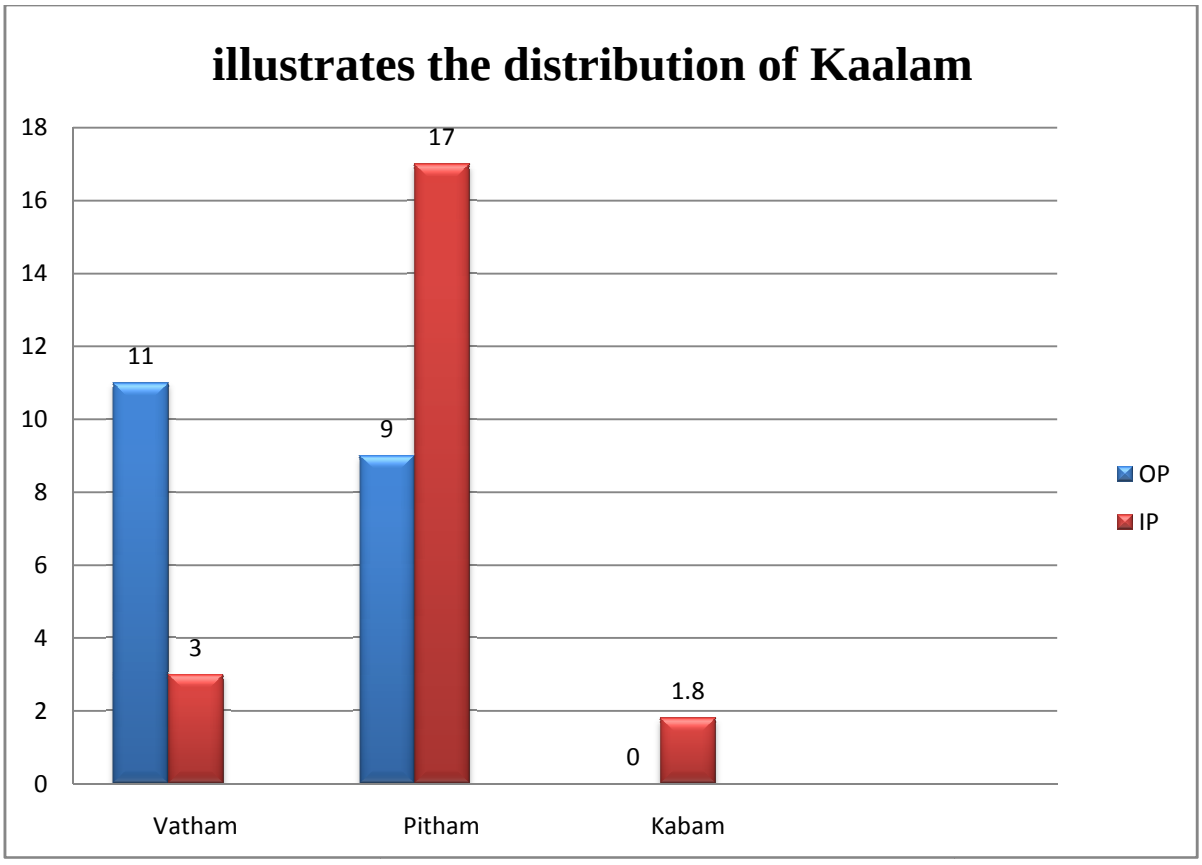
In Op study

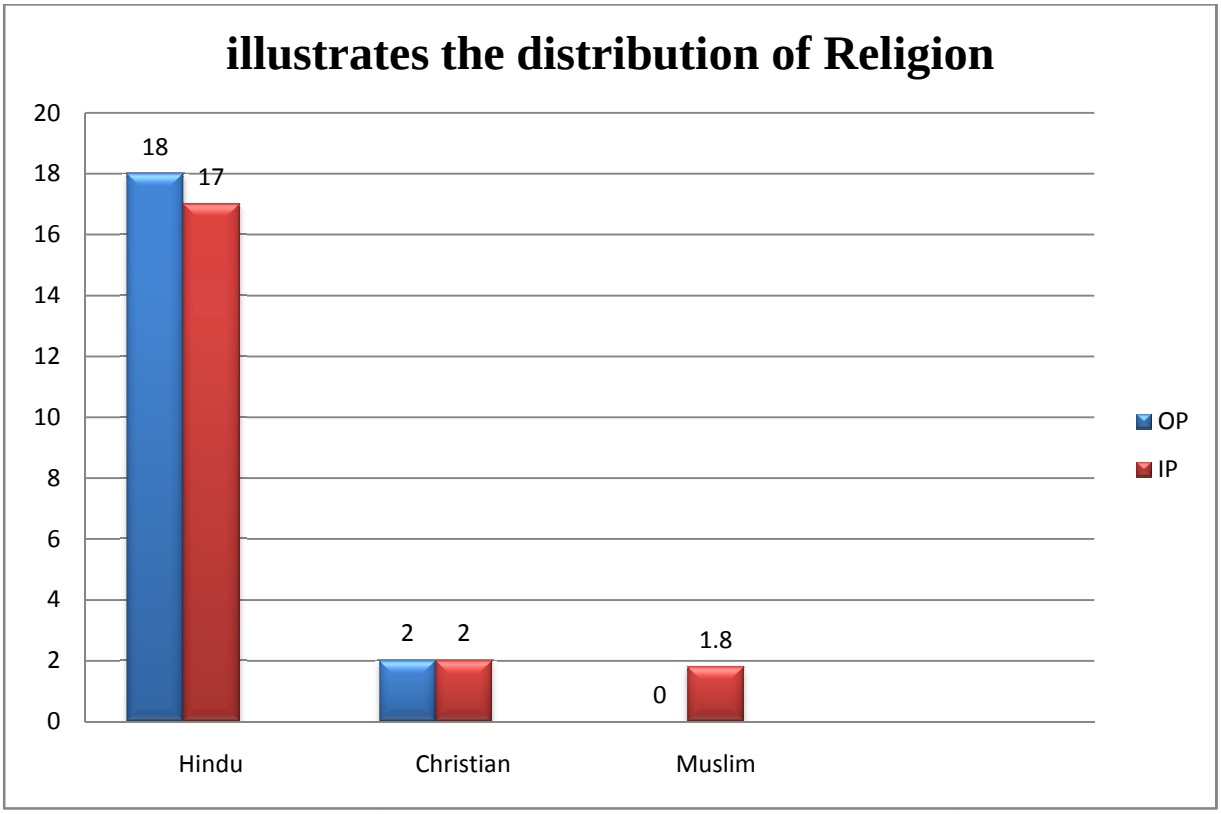
90% of cases showed Good response. 10% of cases showed Moderaate response.

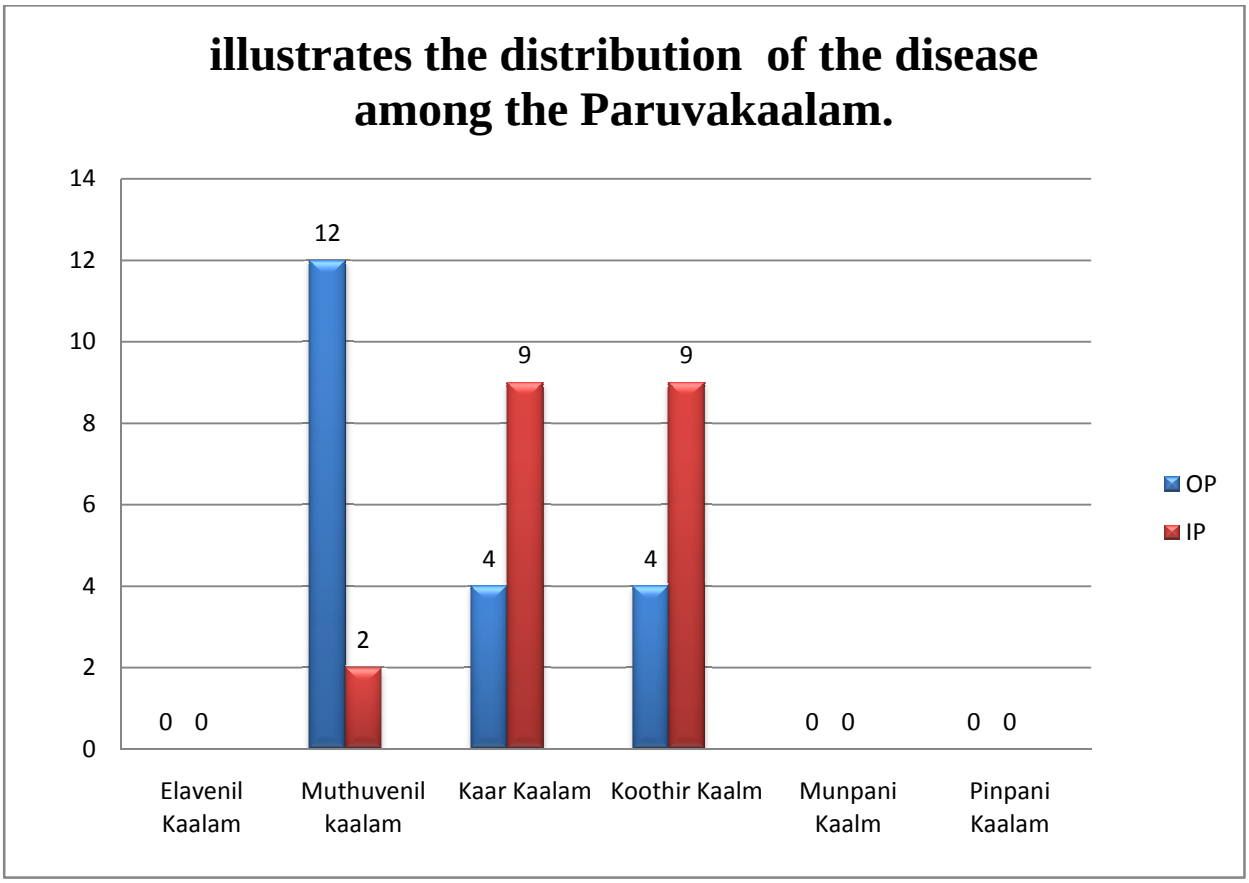

illustrates the distribution of age
14
12
10
8
6
4
2
0
0 0
9
2
5
1
4 4
2
13
Age 13 to 20
Age 21 to 30
Age 31 to 40
Age 41 to 50
Age 51 to 60
OP
IP

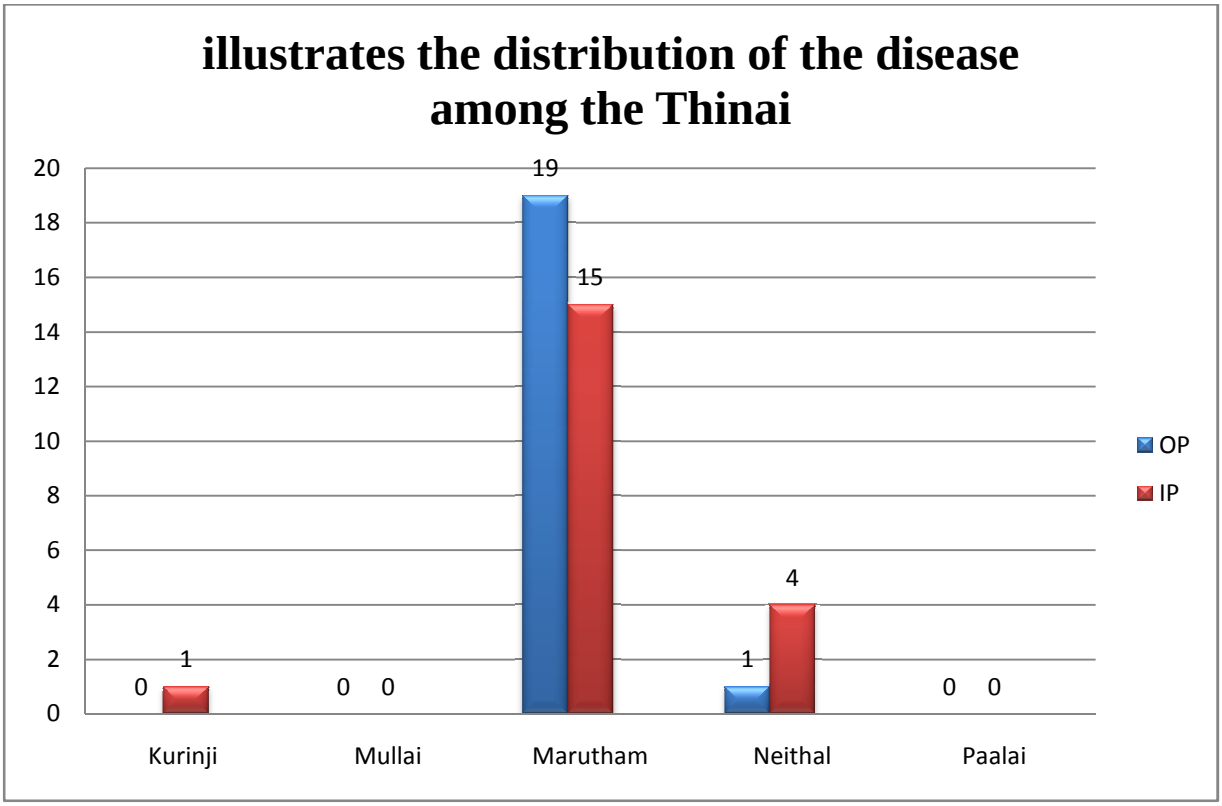

Illustrates the distribution of sex
12
10
8
6
4
2
0
10
9
10
11
Male
Female
OP
IP

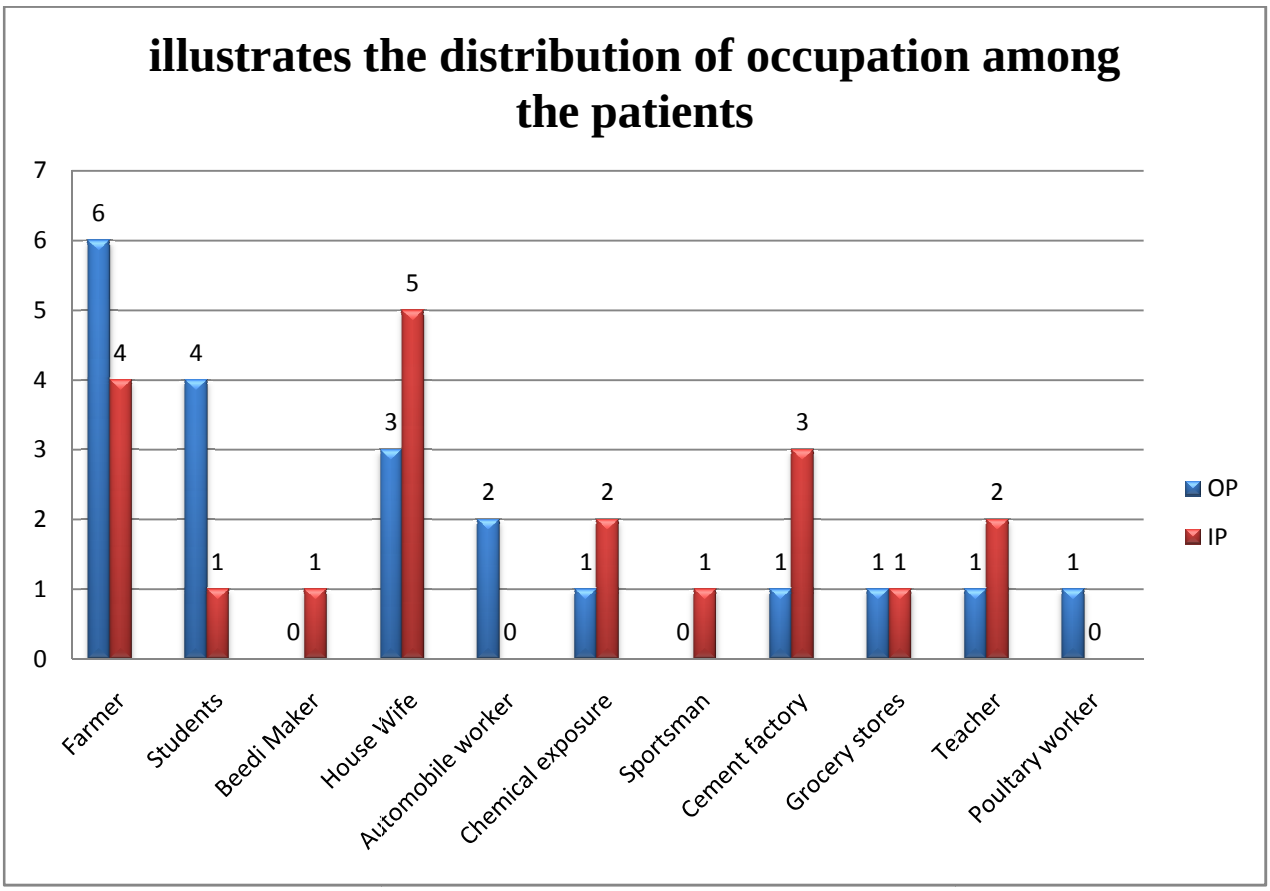

illustrates the distribution of Thegi
9
8
7
6
5
4
3
2
1
0
7
8
4
3
4
7
5
2.8
Vatha thegi
Pitha thegi
Kaba thegi
Thontha thegi
OP
IP

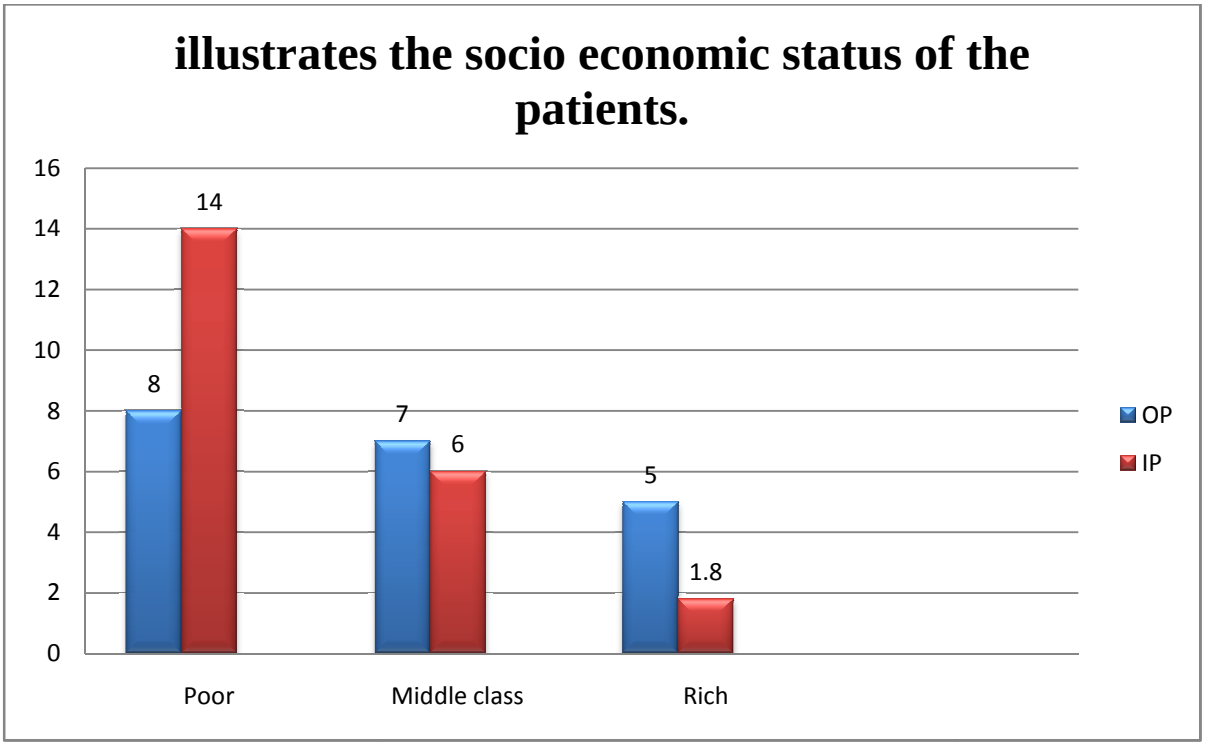

illustrates the distribution of Kaalam
18
16
14
12
10
8
6
4
2
0
11
3
9
17
0
1.8
Vatham
Pitham
Kabam
OP
IP

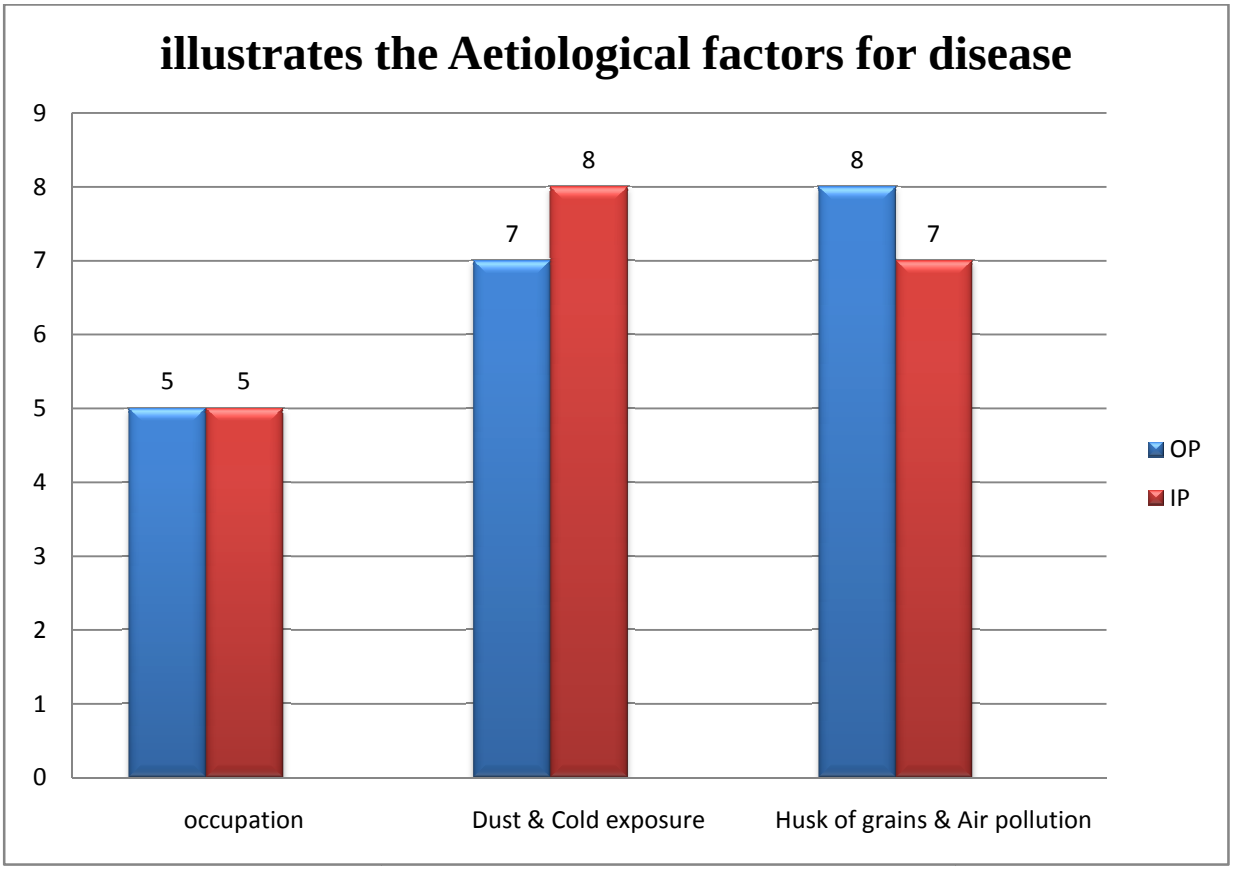

illustrates the distribution of Religion
20
18
16
14
12
10
8
6
4
2
0
18
17
2
2
0
1.8
Hindu
Christian
Muslim
OP
IP

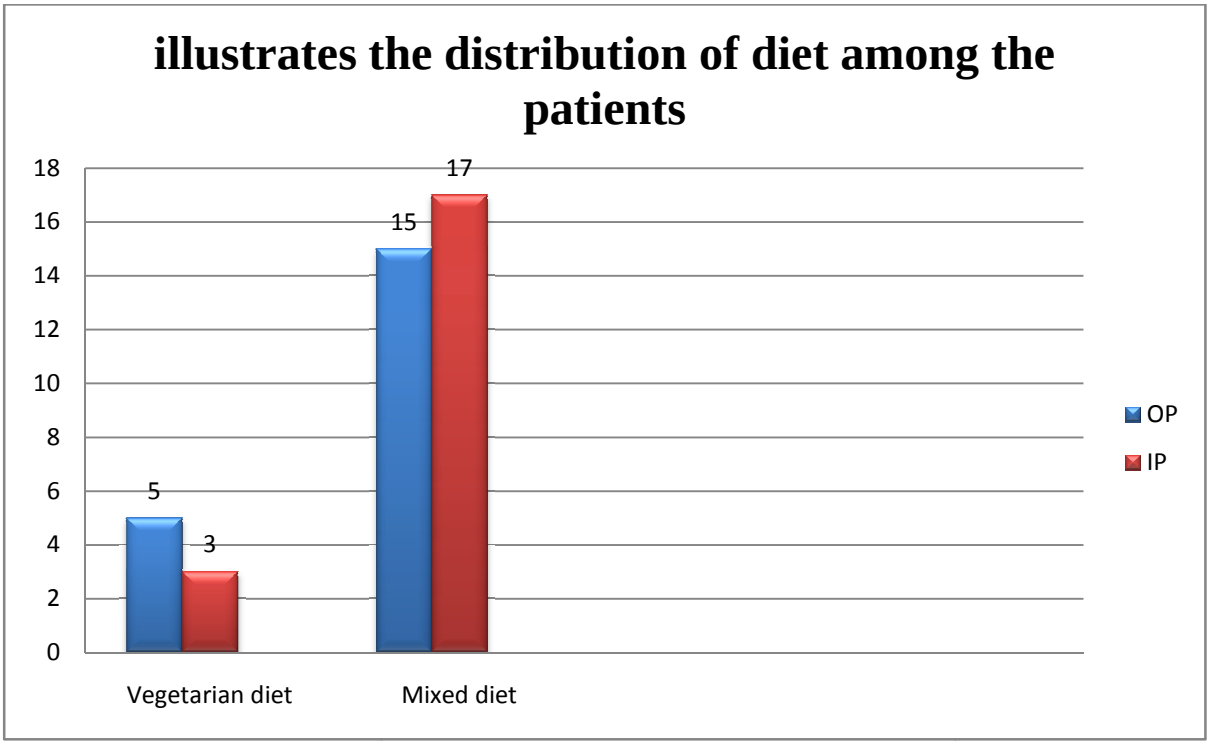

illustrates the distribution of the disease among the Paruvakaalam.
14
12
10
8
6
4
2
0
0 0
12
2
4
9
4
9
0 0
0 0
Elavenil Kaalam
Muthuvenil kaalam
Kaar Kaalam
Koothir Kaalm
Munpani Kaalm
Pinpani Kaalam
OP
IP

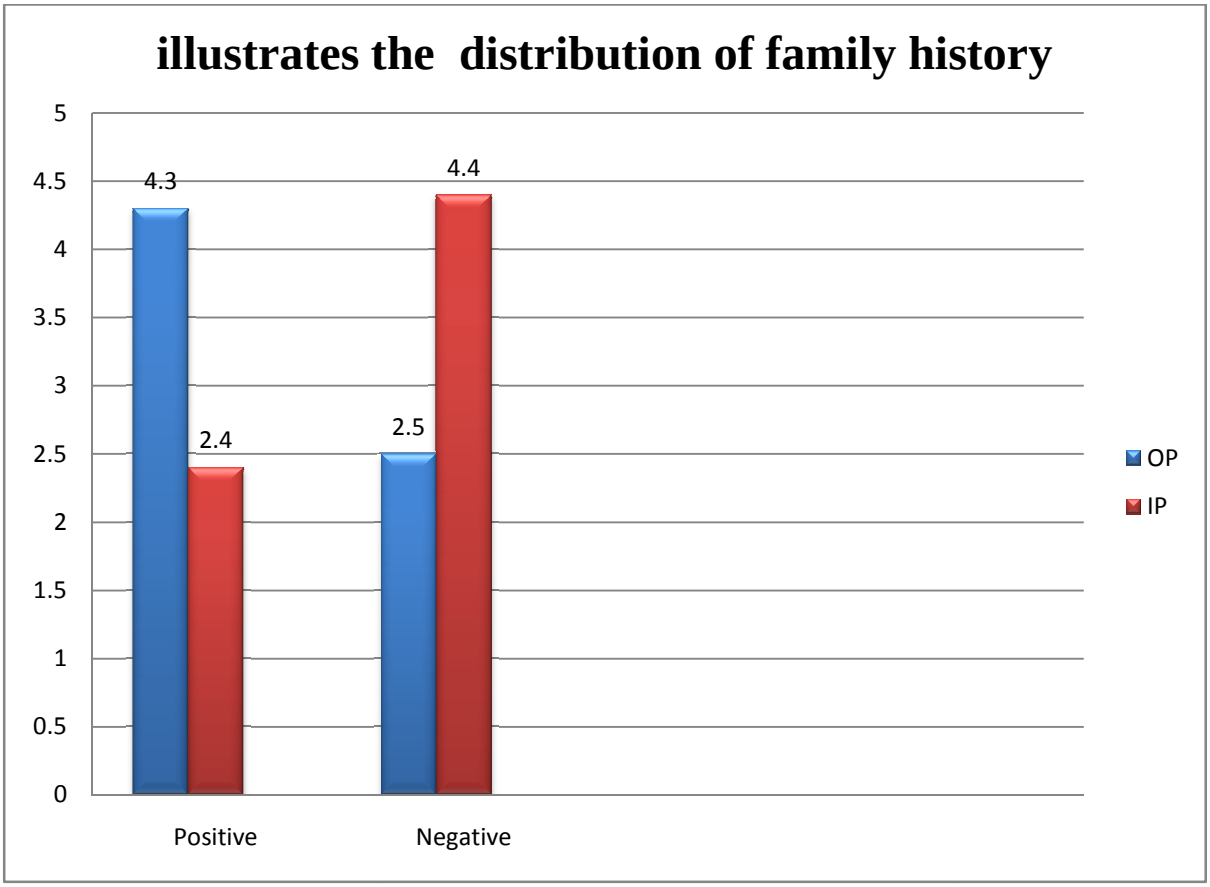

illustrates the distribution of the disease among the Thinai
20
18
16
14
12
10
8
6
4
2
0
0
1
0
0
19
15
1
4
0
0
Kurinji
Mullai
Marutham
Neithal
Paalai
OP
IP

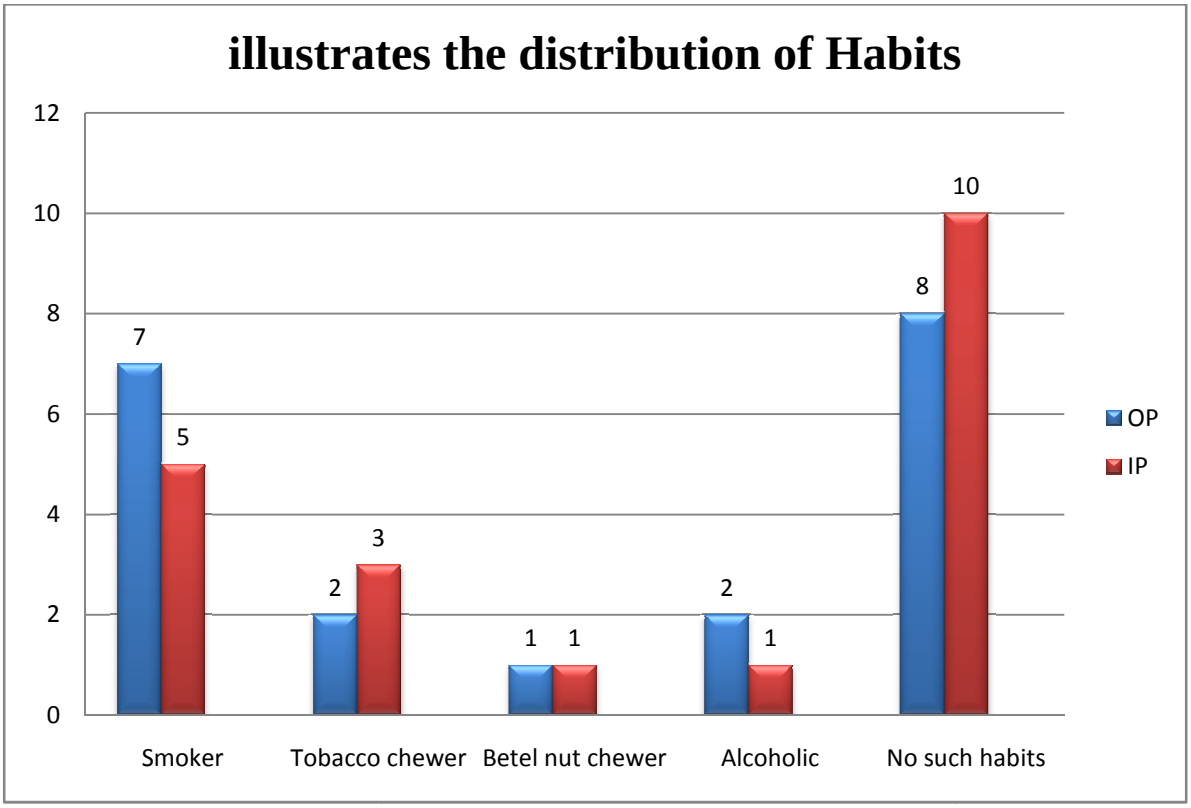

illustrates the distribution of occupation among the patients
7
6
5
4
3
2
1
0
6
4
4
1
0
1
3
5
2
0
1
2
0
1
1
3
1
1
1
2
1
0
Farmer
Students
Beedi Maker
House Wife
Automobile worker
Chemical exposure
Sportsman
Cement factory
Grocery stores
Teacher
Poultary worker
OP
IP

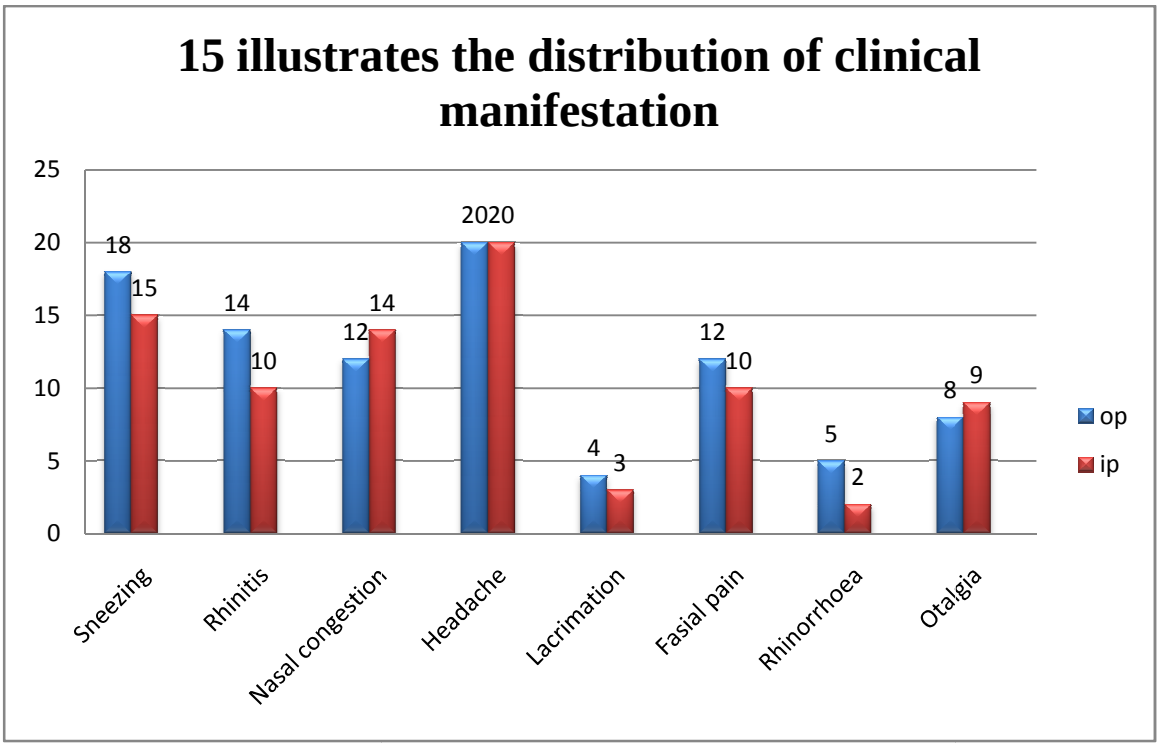

illustrates the socio economic status of the patients.
16
14
12
10
8
6
4
2
0
8
14
7
6
5
1.8
Poor
Middle class
Rich
OP
IP

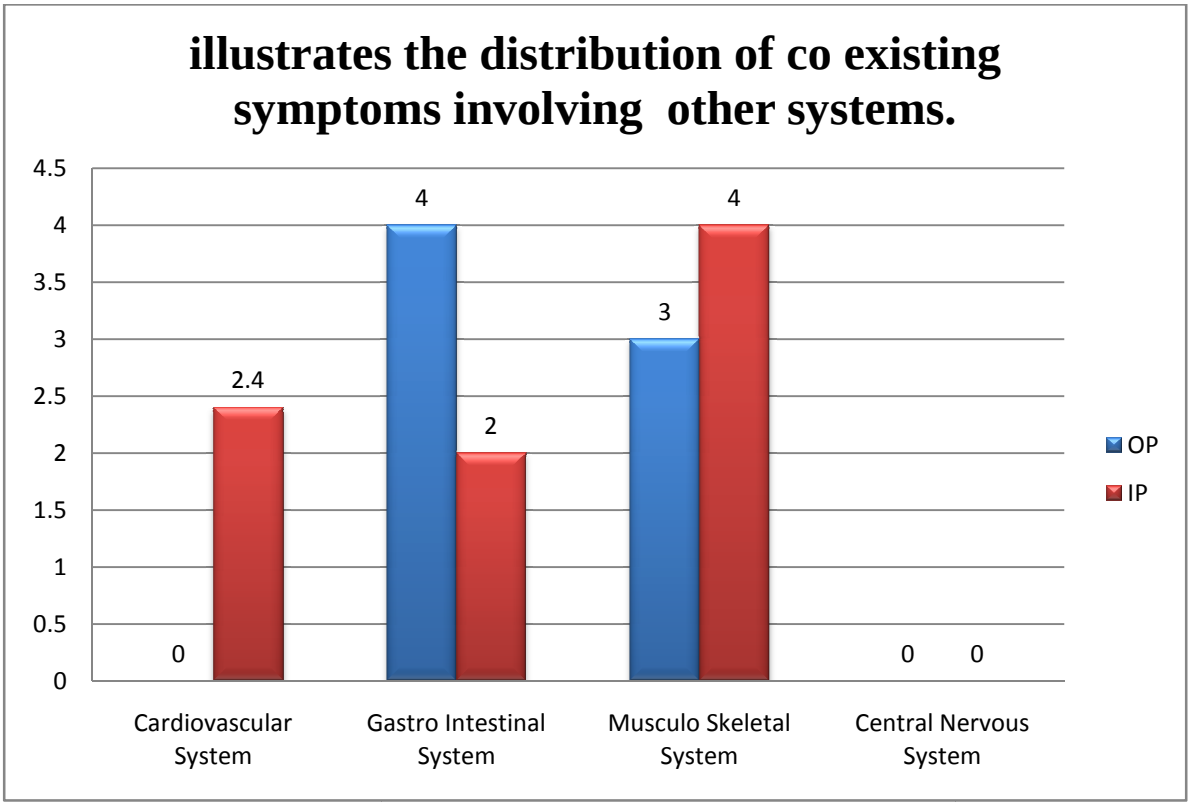

illustrates the Aetiological factors for disease
9
8
7
6
5
4
3
2
1
0
5
5
7
8
8
7
occupation
Dust & Cold exposure
Husk of grains & Air pollution
OP
IP

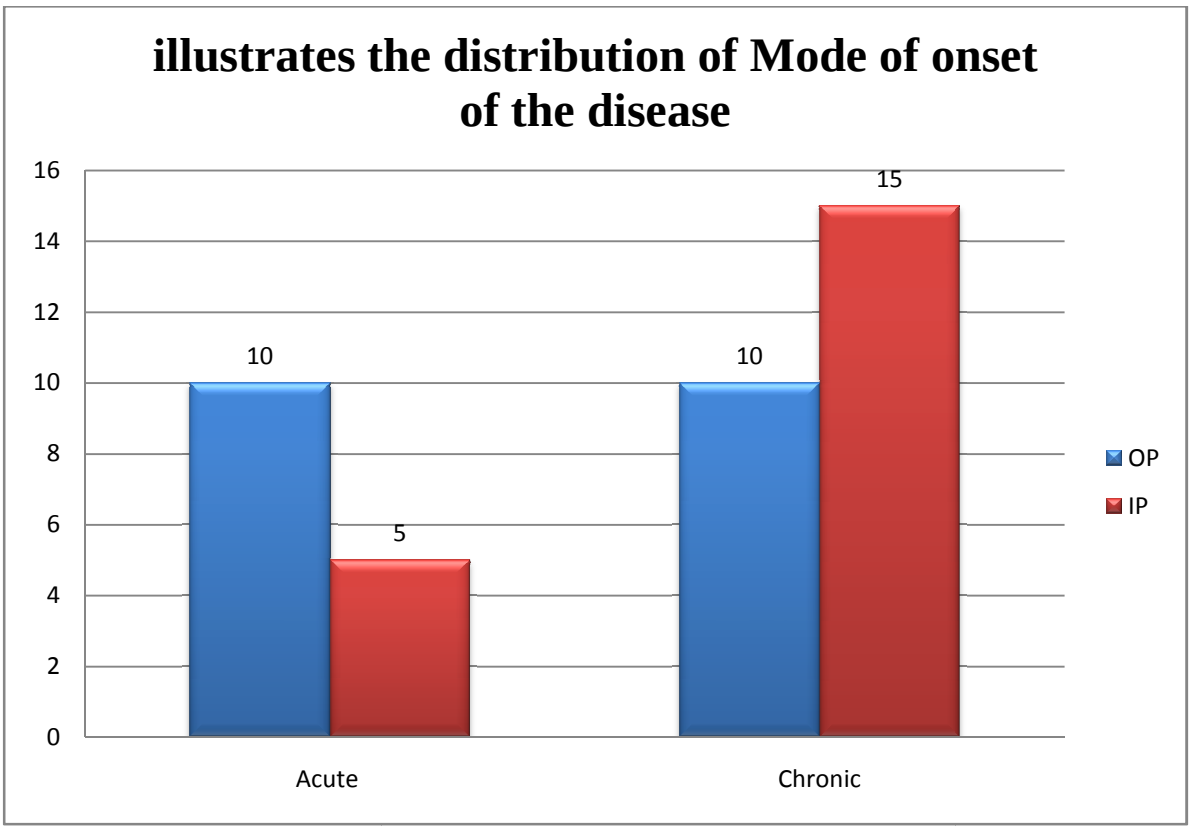

illustrates the distribution of diet among the patients
18
16
14
12
10
8
6
4
2
0
5
3
15
17
Vegetarian diet
Mixed diet
OP
IP

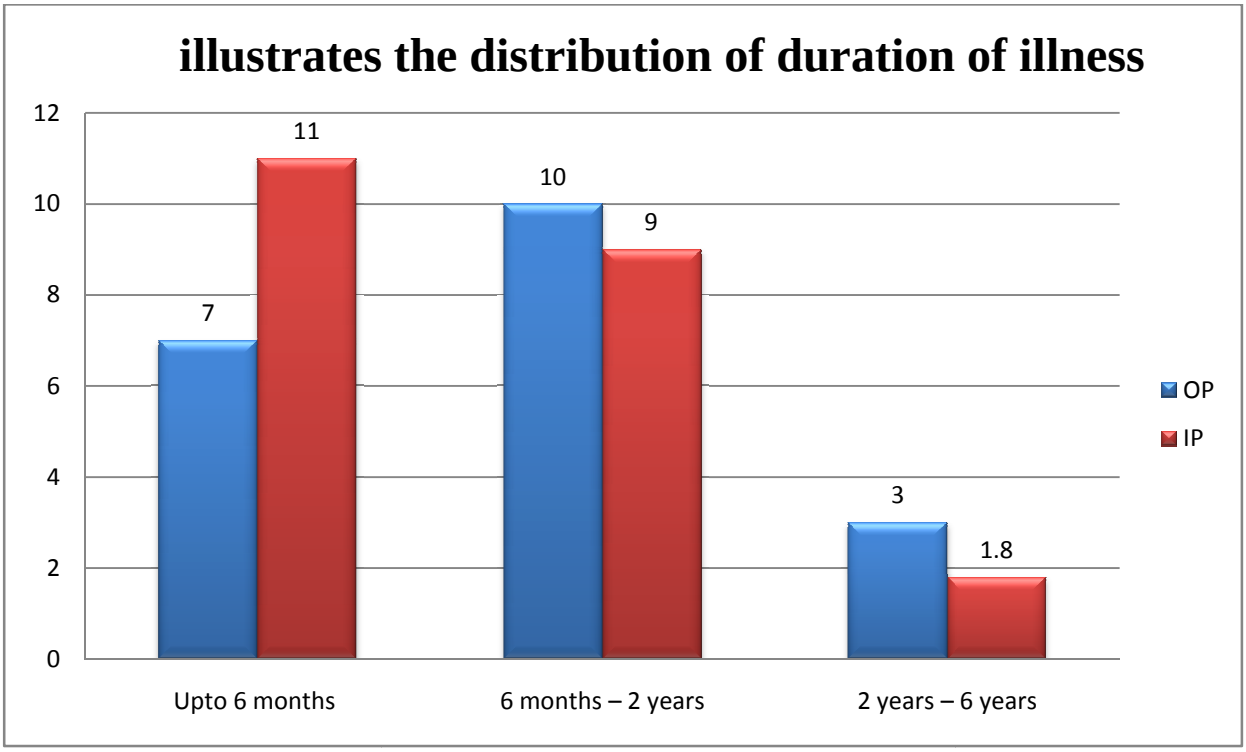

illustrates the distribution of family history
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
4.3
2.4
2.5
4.4
Positive
Negative
OP
IP

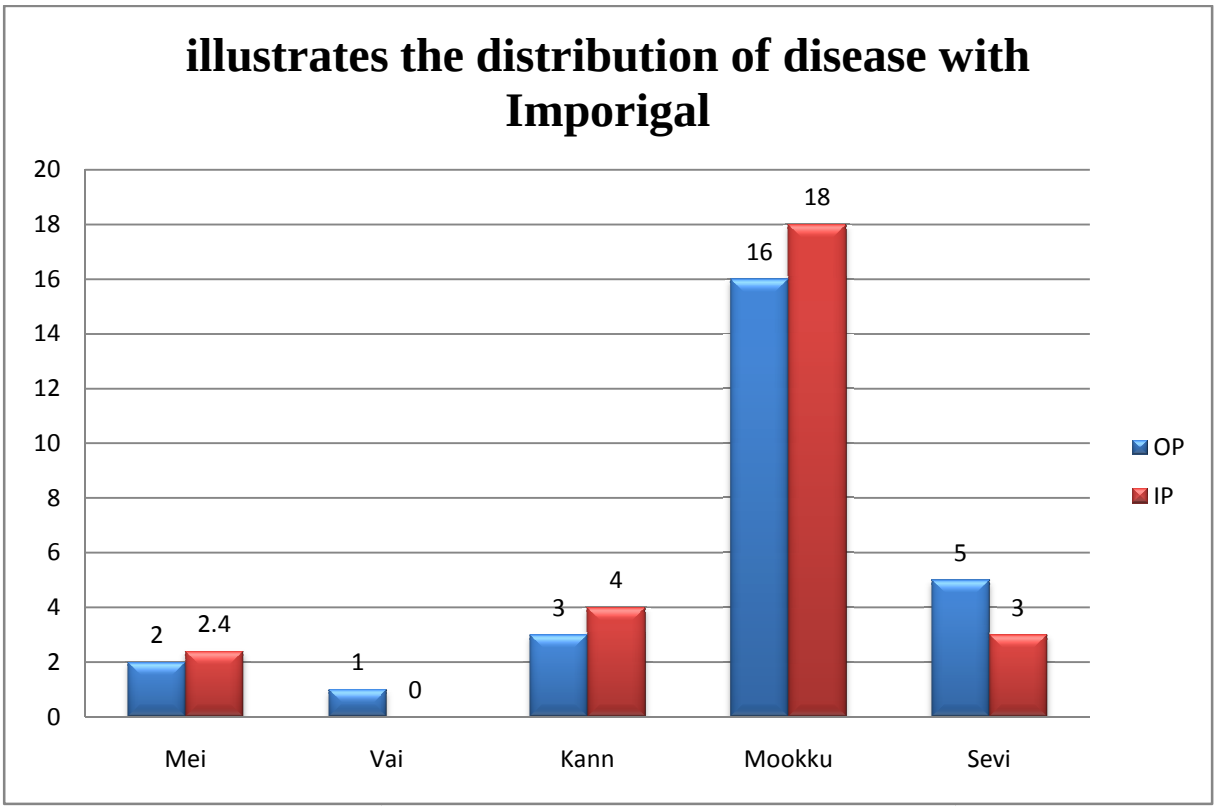

illustrates the distribution of Habits
12
10
8
6
4
2
0
7
5
2
3
1
1
2
1
8
10
Smoker
Tobacco chewer
Betel nut chewer
Alcoholic
No such habits
OP
IP

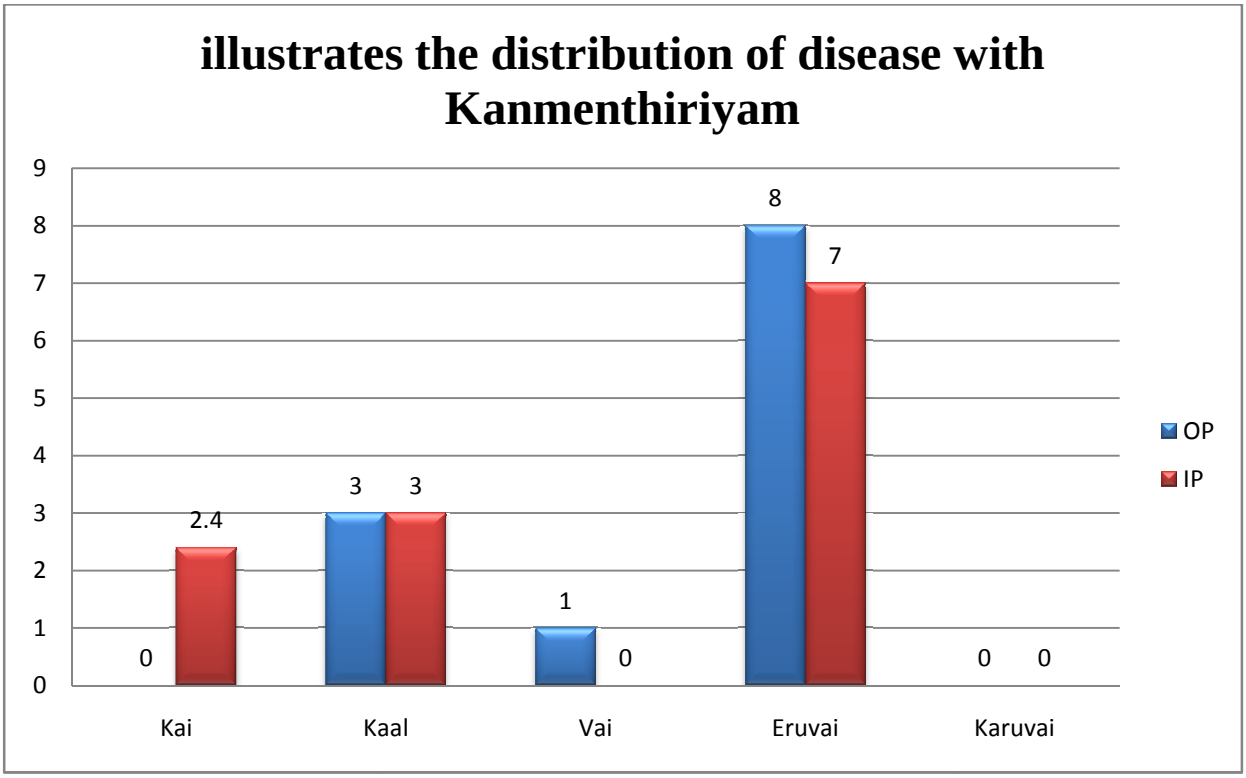

15 illustrates the distribution of clinical manifestation
25
20
15
10
5
0
18
15
14
10
12
14
2020
4
3
12
10
5
2
8
9
Sneezing
Rhinitis
Nasal congestion
Headache
Lacrimation
Fasial pain
Rhinorrhoea
Otalgia
op
ip

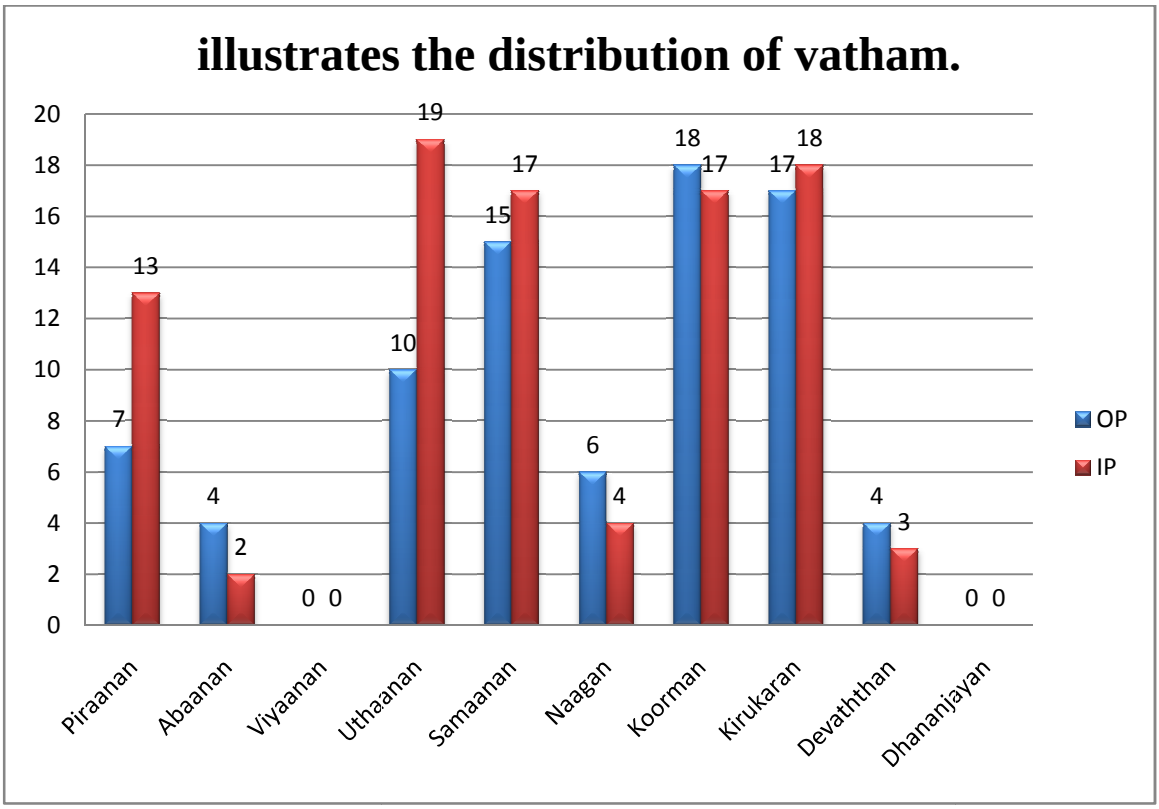

illustrates the distribution of co existing symptoms involving other systems.
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
2.4
4
2
3
4
0
0
Cardiovascular System
Gastro Intestinal System
Musculo Skeletal System
Central Nervous System
OP
IP

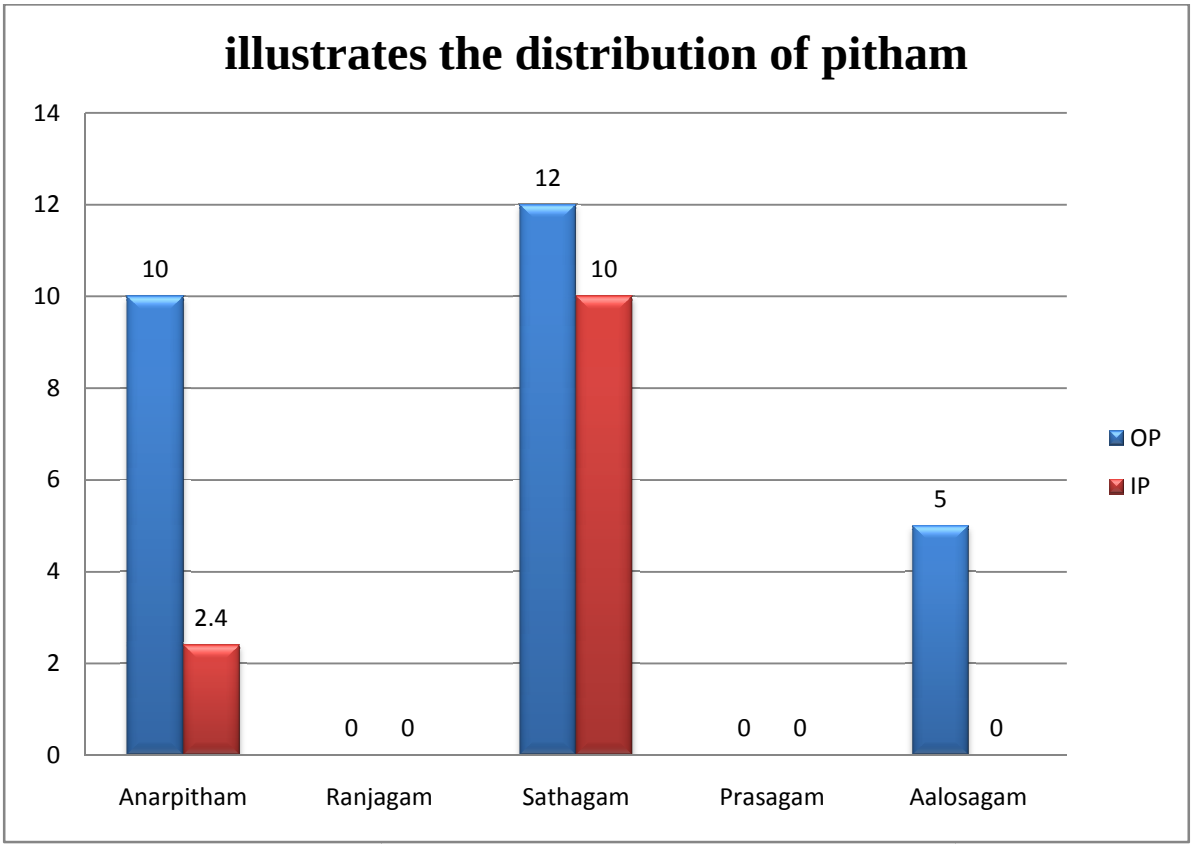

illustrates the distribution of Mode of onset of the disease
16
14
12
10
8
6
4
2
0
10
5
10
15
Acute
Chronic
OP
IP

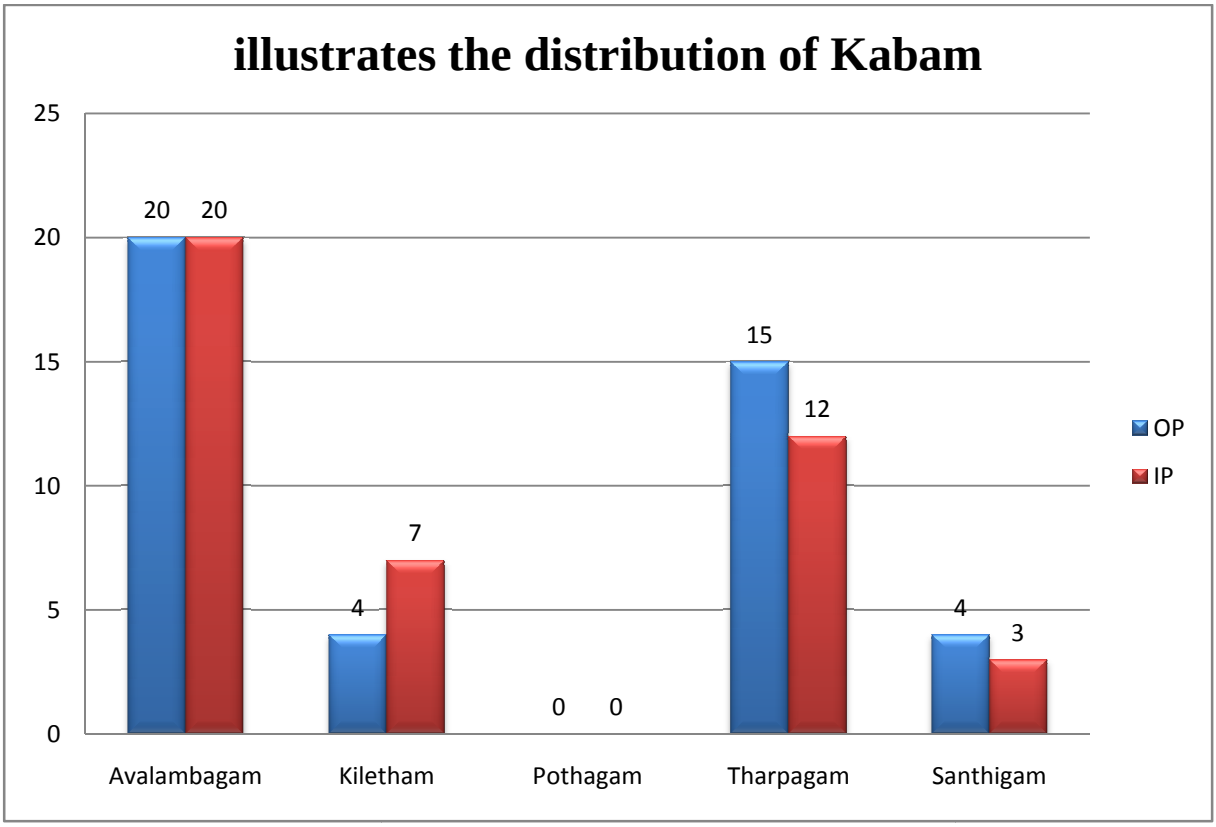

illustrates the distribution of duration of illness
12
10
8
6
4
2
0
11
10
9
7
3
1.8
Upto 6 months
6 months – 2 years
2 years – 6 years
OP
IP

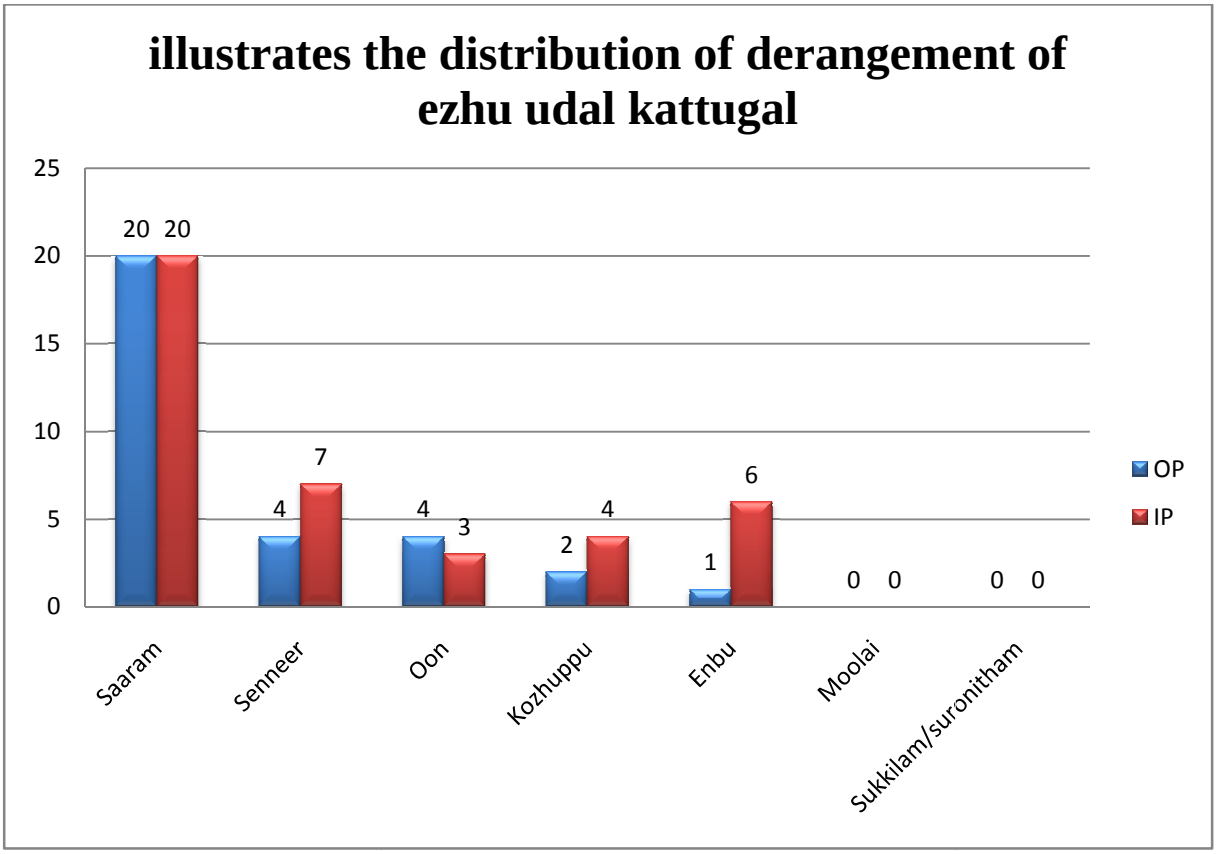

illustrates the distribution of disease with Imporigal
20
18
16
14
12
10
8
6
4
2
0
2
2.4
1
0
3
4
16
18
5
3
Mei
Vai
Kann
Mookku
Sevi
OP
IP

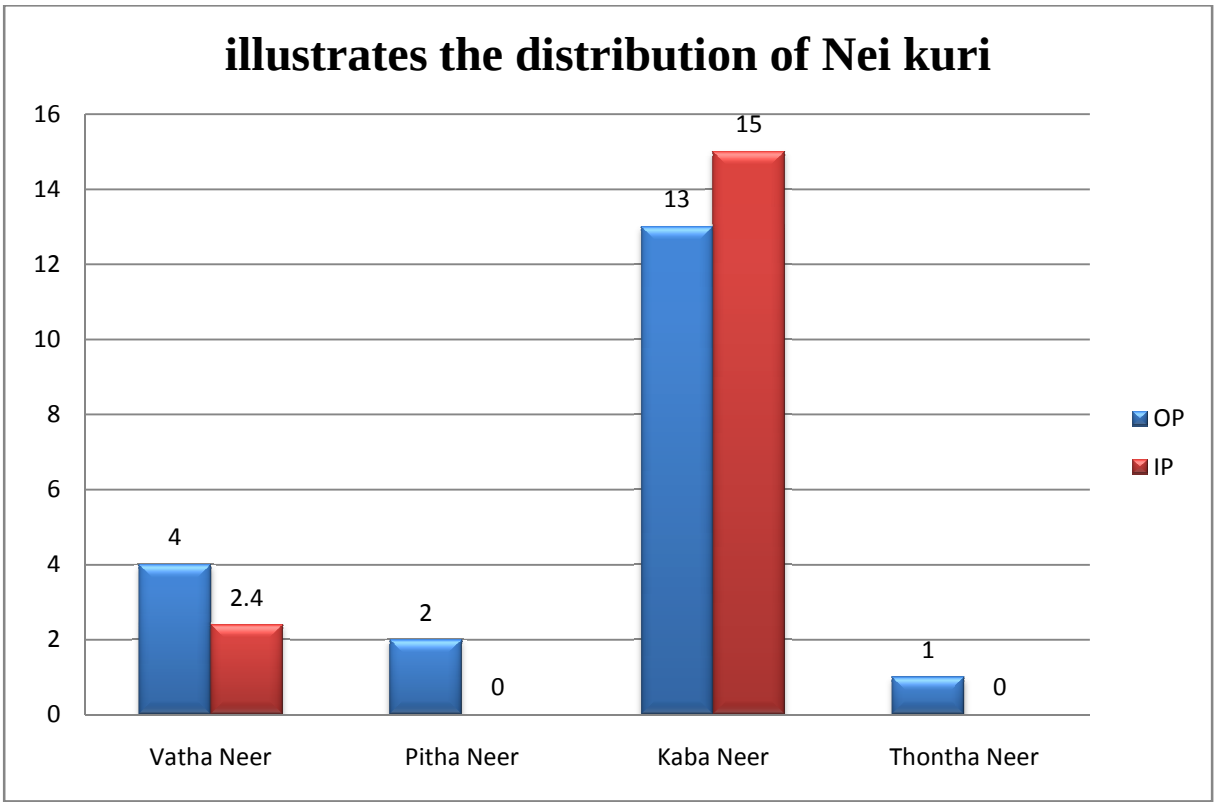

illustrates the distribution of disease with Kanmenthiriyam
9
8
7
6
5
4
3
2
1
0
0
2.4
3
3
1
0
8
7
0
0
Kai
Kaal
Vai
Eruvai
Karuvai
OP
IP

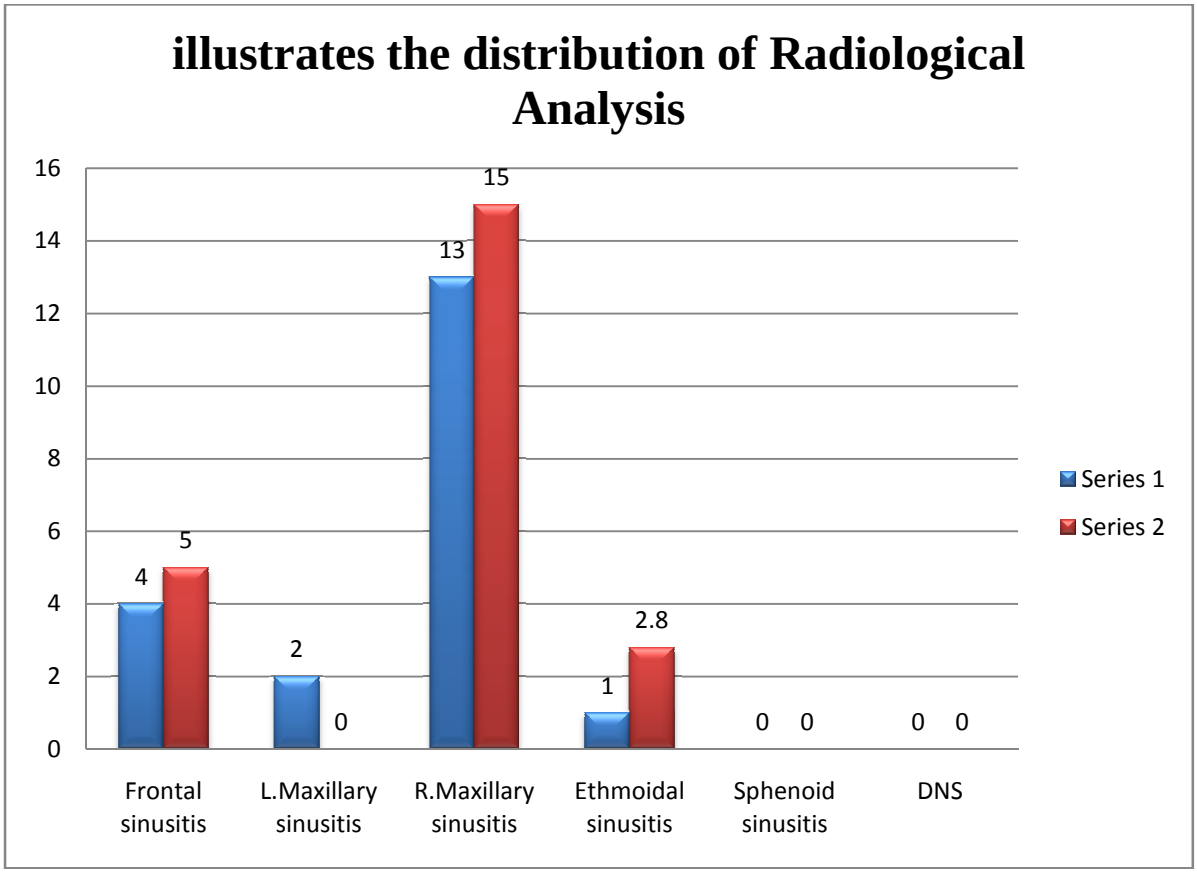

illustrates the distribution of vatham.
20
18
16
14
12
10
8
6
4
2
0
7
13
4
2
0 0
10
19
15
17
6
4
18
17
17
18
4
3
0 0
Piraanan
Abaanan
Viyaanan
Uthaanan
Samaanan
Naagan
Koorman
Kirukaran
Devaththan
Dhananjayan
OP
IP

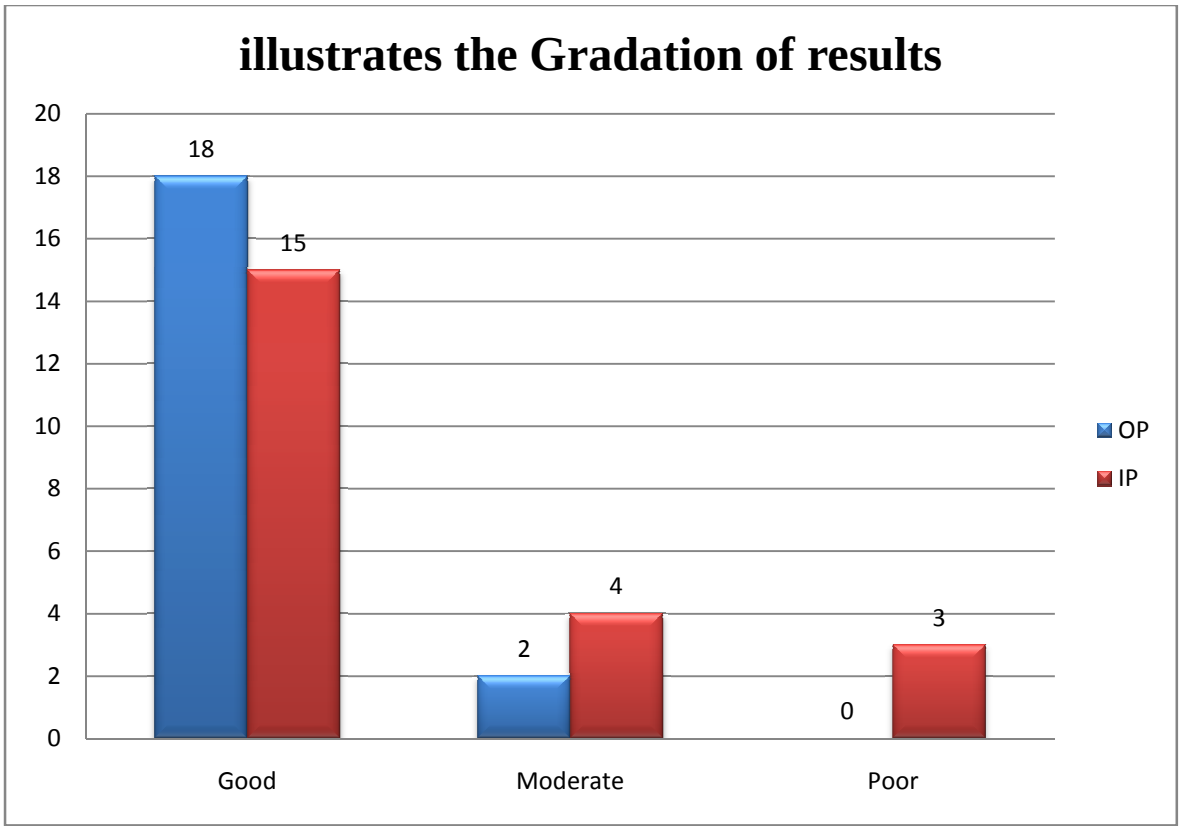

illustrates the distribution of pitham
14
12
10
8
6
4
2
0
10
2.4
0
0
12
10
0
0
5
0
Anarpitham
Ranjagam
Sathagam
Prasagam
Aalosagam
OP
IP


illustrates the distribution of Kabam
25
20
15
10
5
0
20
20
4
7
0
0
15
12
4
3
Avalambagam
Kiletham
Pothagam
Tharpagam
Santhigam
OP
IP


illustrates the distribution of derangement of ezhu udal kattugal
25
20
15
10
5
0
20 20
4 7
4 3
2 4
1 6
0 0
0 0
Saaram
Senneer
Oon
Kozhuppu
Enbu
Moolai
Sukkilam/suronitham
OP
IP


illustrates the distribution of Nei kuri
16
14
12
10
8
6
4
2
0
4
2.4
2
0
13
15
1
0
Vatha Neer
Pitha Neer
Kaba Neer
Thontha Neer
OP
IP


illustrates the distribution of Radiological Analysis
16
14
12
10
8
6
4
2
0
4
5
2
0
13
15
1
2.8
0 0
0 0
Frontal sinusitis
L.Maxillary sinusitis
R.Maxillary sinusitis
Ethmoidal sinusitis
Sphenoid sinusitis
DNS
Series 1
Series 2


illustrates the Gradation of results
20
18
16
14
12
10
8
6
4
2
0
18
15
2
4
0
3
Good
Moderate
Poor
OP
IP

DISCUSSION

Disease occurs due to various changes in environment and life style modification. Pitha thalai nokkadu produces many clinical entities that produces various complications.

The most common signs are nasal congestion, sneezing, headache and rhinitis. Due to these complaints the patients are not able to concentrate in their work and make him feel depressed.

Efficacy of Siddha system in curing the diseases prompted me to carry out clinical and scientific study in this subject.

For the clinical study twenty patients were selected and admitted as In-patients in post Graduate Department of Pothu Maruthvam. They were treated with the trial medicine. After discharge all the 20 patients were followed as the out-patients.

In the out-patients Department of Pothu Maruthuvam, 20 out patients were selected and treted with the trial drug.

The results were clearly observed and recorded under the supervision of professor, Reader and Assistant lecturer.

1. Age Distribution:

Among the In-patients 65% of the patients were affected in the age groups of 51-60 years, 20% of the patients were affected in the age group of 41-50 years, 5% of the patients were affected in the age group of 31-40 years, 10% of the patients were affected in the age group of 21-30 years.

Among the Out-patients 10% of the patients were affected in the age group of 51-60 years, 20% of the patients were affected in the age group of 41-50, 25% of the patients were affected in the age group of 31-40 years, 45% of the patients were affected in the age group of 21-30 years.

It showed that increased incidence of the patients the age group of 51-60 years.

2. Sex Distribution

Among the both In-patients 45% of males and 55% of females were affected and in Out-patients 50% each of the males and females were affected.

This indicated that females were mostly affected by the disease than males.

3. Kaalam

Among In-patients 85% were belonged to pithakaalam, 15% were belonged to vathakaalam.

Among the Out-patients 45% were belonged to pithakaalam, 55% were belonged to vathakaalam.

The maximum no of cases were treated in the pithakaalam.

4. Constitution of Body:

Among In-patients 40% were belonged to vatha thegi, 35%were belonged to kaba thegi, 15% were belonged to pitha thegi, 10% were belongs to thontha thegi.

Among Out-patients 35% were belonged to vatha thegi

25% were belonged to thontha thegi

20% were belonged to pitha thegi and kaba thegi.

The maximum no of cases were treated in the vatha thegi.

5. Gunam:

Among In & Out patients 100% had Rajogunam.

6. Religion:

Among In-patients 80% were Hindus

10% were Christians

10% were muslims.

Among Out-patients 90% were Hindus

10% were Christians

7. Paruvakaalam:

Among In-patients 10% were affected during Muthuvenil kaalam, 45% were affected during Kaarkaalam and Koothirkaalam

Among Out-patients 60% were affected duringwere Muthuvenil kaalam

20% were affected during Kaarkaalam and Koothir kaalam

8. Thinai:

Among In-patients 75% belonged to Marutham (ie. Plain & its surroundings), 20% belonged to the Neithal (ie. sea & its surroundings) and 5% belonged to kurinji.

Among Out-patients 95% belonged to Marutham (ie. Plain & its surroundings) and 5% belonged to the Neithal (ie. sea & its surroundings).

According to the literature Marutha Nilam is free from disease.

The utilization of land is along with water, heat and air.

Now a day these three were affected due to pollution, thus the disease occurs in this area also.

The observation indicates that the incidence of the disease is more in Marutha Nilam. (ie Plain& its surroundings)

9. Occupational Distribution:

Among the In-patients 25% belongs to house wives, 20% belongs to farmer, 15% were cement factory, 10% belongs to teachers and chemical factory, 5% to students,beedi makers, grocery stores and sportsman.

Among the Out-patients 30% were farmer, 20% were students, 15% were housewife, 10% were automobile workers and 5% were cchemical exposure, teachers, grocery stores, poultry and cement factory workers.

10. Distribution of Socio-Economic status:

Among the In-patients 70% belonged to the poor socio-Economic status and 30% belonged to middle class.

Among the Out-patients 40% belonged to the poor socio-Economic statu, 35% belonged to middle class and 5% belonged to rich.

This observation indicated the increased incidence of the disease in poor socio-economic status.

11. Distribution of Aetiological factor of the patients

Among the In-patients 40% of the patients had dust and cold exposure, 35% of the patients had husk of grains & air pollution and 25% of the patients had occupational collectively as their aetiology.

Among the Out-patients 35% of the patients had dust & cold exposure, 25% of the patients had occupational, 40% of the patients had husk of grain & air pollution, collectively as their aetiological factor.

Above data illustrated dust & cold exposure and husk of grains & air pollution were the aetiological factors among the patients.

12. Food Habits:

The observations illustrated that among the In-patients 85% of them had mixed diet and 15% had vegetarian diet.

Among Out-patients 75% of them had mixed diet and 25% of them had vegetarian diet.

It indicated that the disease was predominant in the mixed diet habitats.

13. Family History:

Among the In patients, 95% of the patients had negative family history and 5% of the patients had positive family history.

Among the out patients 85% of the patients had negative family history and 15% of the patients had positive family history.

It is showed that most of the patients had negative family history.

14. Habits:

Among the out patients 50% were no unusual habits, 25% of the patients were smokers, 15% of the patients were tobacco chewers and 5% were betel nut chewers and smokers.

Among the In patients 40% of the patients were no unusual habits, 35%of the patients were smokers, 10%of the patients were tabacco chewer and alcoholic and 5% of the patients were betal nut chewer.

The disease not depends on habits.

15. Distribution of clinical manifestations

The data from the observation showed that 100% of headache present in both In-Patients and out-patients.

Sneezing was present in 75% of the In-patients and 95% of the out-patients,Nasal congestion was present in 70% of the In-patients and 60% of the out-patients, Rhinitis was present in 50% of the In-patients and 70% of the Out-patients, Facial pain was present in 50% of the In-patients and 60% of the Out-patients, otalgia was present in 45% of the In-patients and 45% of the Out-patients, Lacrimation was present in 15% of the In-patients and 20% of the Out-patients and Rhinorrhoea was present in 15% In-patients and 20% in Out-patients.

16. Involvement of other systems:

Both In-patients, out-Patients Gastro intestinal system was affected more than any other system with the disease.

The symptoms that noticed among the patients were mainly loss of appetite.

17. Mode of on set

The observation illustrated the mode of onset was 50% Acute and Chronic among Out-patients.

Among In-patients the mode of onset was 75% chronic and 25% acute.

18. Duration of disease

Among the In-patients, 55% incidence for the duration of upto 6 months and 45% incidence for the duration of 6months – 2 years.

Among the Out-patients, 65% incidence for the duration of upto 6months, 10% incidence for the duration of 6 months -2 years and 15% incidence for the duration of 2-6years.

The data illustrated the highest incidence of duration of disease among, the In-patients and Out-patients were 6months -2 years.

19. Imporigal (Gnaendhriyam)

Among the Out-patients, Mookku (Nose) was affected in 90% of the patients .i.e. anosmia due to running nose, Kann was affected in 20% of the patients due to lacrimation, Mei and sevi were affected in 15% of patients, Vai is not affected.

Among the In-patients Mookku was affected in 80% of the patients, Sev was affected in 25% of patients, Kann was affected in 15% of patients and Mei was affected in 10% of patients.

20. Kanmenthiriyam

It was illustrated that among the In-patients, Kai was affected in 5% of the patients, kaal was affected in 15% of the Patients, they had Knee joint pain may be due to aging. Eruvai was affected in 35% of the patients, they had constipation. Vai and Kariuvai were not affected.

Among the Out-patients, Kaal was affected in 15% of the patients & eruvai was affected in 40% of the patients and vai was affected 5% of due to altered in taste. Kai and Karuvai were not affected.

This showed that Eruvai were affected in most of the cases.

21. Mukkutram

a. Vatham

Among In-patients Uthnan was affected in 95% of patients, Kirukaran was affected in 90% of patients, Koorman and Samanan were

affected in 85% of patients, Naagan was affected in 20% of patients, Devathathan was affected in 15% of patients and Abanan was affected in 10% of patients.

Among Out-patients Koorman was affected in 90% of patients, Kirukaran was affected in 85% of patients, Samanan was affected in 5% of patients, Uthanan was affected in 50% of patients, Piranan was affected in 35% of patients and Abanan and Devaththan were affected in 10% of patients.

b. Pitham

Anar pitham was affected in 70% of the In-patients and 50% of the Out-patients.

Sathagam was affected in 50% of the In-patients and 60% of the Out-patients.

Aalosagam was affected only in Out patients of about 25% and not affected in In-patients.

Ranjagam,and Prasagam were not affected in this disease.

c. Kabam

Avalambagam was affected in all the 100% of both In-patients and Out-patients, Tharpagam was affected in 60% of the In-patients and 75% in Out-patients, Kiletham was affected in 35% of the In-patients and 20% of the out-patients and Santhigam was affected in 20% of the In-patients and 15% of the Out-patients.

22. Ezhu udal Kattugal

In ezhu udal Saaram was affected in all the 100% of the In-patients and Out-patients. Enbu was affected in 30% of In-patients and 5% in Out-patients, Oon was affected in 15% of In-patients and 20% of the Out-patients, Kozhuppu were affected in 30% of the In-patients and 20% of the out patients and senneer was affected in 35% of the In-patients and 20% of the out-patients.

23. Envagai Theruvugal

Among 20 In-patients, Sparisam was affected in 10%, Naa & Niram were affected in 15%, Mozhi was affected in 20%, Vizhi was affected in 40%, Malam was affected in 10% and Moothiram was affected in 5%.

Among 20 Out-patients, Sparisam was affected in 5%, Naa was affected in 30%, Niram were affected in 20%, Mozhi was affected in 25%, Vizhi was affected in 55%, Malam was affected in 5% and Moothiram was not affected.

In Naadi, 60% of the Out-patients and 35% of the In-patients had Pitha vatham,

10% of the Out-patients and 40% of the In-patients had Vatha pitham

10% of the Out-patients and 5% of the In-patients had pitha kaba naadi.

20% of the Out-patients and 10% of the In-patients had Kaba pitha naadi.

24. Neerkuri

Niram, Manam, Edai, Nurai and Enjal were not affected in all patients

25. Neikuri

In Neikuri, 75% of In-patients and 65% of Out-patients had kaba neer.

25% of IN-patients and 20% of Out-patients had Vatha neer

10% of the Out-Patients had Pitha neer.

5% of the Out-patients had Thontha neer.

26. Laboratory analysis

Routine investigation of blood and urine were done during the admission time and at the end time of the treatment for both In-patients and Out-patients.

Blood urea and serum cholesterol were found to be in normal range before and after treatment.

Urine examination in Out-patients and In-patients showed nil albumin, 40% of the In-patients pus cells and 5% Epithelial cells in their urine and after treatment it was NAD (Nothing Abnormal Detectable) with appropriate Medicine.

Urine examination in Out-patients showed 40% of the pus cells, 25% of the epithelial cells after treatment it was NAD, with appropriate medicine.

Urine examination showed sugar before treatment in 5% of both In-patients and Out-patients and reduced at the end of the treatment with oppropriate medicine.

Blood investigation of In-patients showed total count of WBC within the normal range. Eosinophils count was increased and ranged from 4-10 cells before treatment and after treatment it ranged 1% to 4%. ESR (Erythroyte Sedimentation Rate) was raised in before treatment and the after treatment it was reduced. Hemoglobin content was decreased in before treatment and the after treatment it was normal.

Blood investigation of Out-patients showed TC within the normal range. Eosinophils count was raised and showed the range of 4% to 11% cells before treatment and after treatment it was ranged 1% to 4%.

Hemoglobin content was decreased in before treatment and the after treatment was normal.

Motion test revealed that 100% of both In-patients and Out-patients had normal results before treatment as well as after treatment.

27. Radiological Investigation:

X-Ray skull PNS view among 55% of the In-patients and 35% of the Out-patients had Frontal sinusitis.

Among 35% of the In-patients and 20% of the Out-patients had Right Maxillary sinusitis.

Among 10% of the In-patients and 15% of the Out-patients had Deviated Nasal Septum and 10% of the Out-patients had Left Maxillary Sinusitis.

28.Gradation of results

Good resuts were found it 60% of the In-patients and 55% of the Out-patients. Moderate results were found it 30% of In-patients and 35% of Out-patients. Poor results were found in 10% of In-patients and 10% of Out-patients.

SUMMARY

Pitha Thalai Nokkadu is one of the most commonly occuring disease. It seeks proper treatment in the early stage itself; otherwise it may leads to serious complications like cranial complications etc.

This disease is correlated with Sinusitis, according to the clinical symptoms.

Peenisathuku Chooranam was taken as trial drug for this clinical study.The aim of the study is to evaluate the efficacy of Peenisathuku Chooranam.

The aetiology, classification, clinical features, diagnosis, pathology, treatment, prognosis and prevention were collected from both siddha and modern system of medicine.

In this clinical study, twenty patients of both sexes at various age groups with classical symptoms were selected as in-patients and another twenty as out-patients.

All the selected patients were treated with the trial drug. From the results and observations, its clear that the disease was common in the following aspects.

PithaThalai Nokkadu affects both the sexes, and few persent is more in females than males. Age incidence was seen in all age groups, and more seen between 51-60. Yhe majority of the patients were treated in pitha kaalam.

Incidence of this disease in encountered in all the six perumpoluthugal. The disease was more seen among poor people, it may be due to their unhygiene, porr health, poverty and ignorance of treatment.

The disease was seen both as acute and chronic onset. The altered equilibrium in three dhosa were elicited. In vatham viyanan, kirukaran and uthanan were affected. In pitham anar pitham and sathaga pitham

were affected. In kabam avalambagam and tharpagam were affected. Among udarkattugal saaram and seneer were affected in majority of cases.

In envagai thervugal, sparisam, mozhi and vizhi were affected in more cases.

In Pitha Thalai Nokkadu, the naadi were pitha vatham and vatha pitham in majority of cases. Kaba pitham and kaba vatham were also seen in few cases.

Neerkuri in all the patients show normal urinary outflow. Neikuri showed in shapes of vatham, pitham and kaba neer.

In modern aspect, routine urine and blood investigation and X-ray PNS had seen in all the patients. Blood investigation showed raised ESR and eosinophil count. X-ray PNS showed the frontal, maxillary and deviated nasal septum.

Most of the patients had significant relief of symptoms and had no side affects. Every patient was advised to follow proper diet and prophylaxis for thia disease.

Biochemical analysis showed that the samle Peenisathuku chooranam contains calcium, chloride, ferrous iron, tannic acid, unsaturated compound and reducing sugar.

The pharmacological study revealed that the trial drug Peenisathuku chooranam had significant acute anti-inflammatory action and significant Anti-histaminic effect, and Modrate analgesic effect.

Anti microbial analysisalso releaved that the trial drug Peenisathuku chooranam was sensitive against E. coli, moderatively sensitive against Proteaus and Staphylococcus and resisitence against streptococcus.

CONCLUSION

In this research, clinical results found to be satisfactory in about 85% of cases.

The trial drug was clinically very effective to the suffering patients and they were relieved completely from their symptoms. Futher follow up of recurrent sinusitis patients showed the efficacy of the study drug.

This clinical study showed no adverse effects of the trial medicine during the period of study.

So it is concluded that the disease **Pitha Thalai Nokkadu** is well controlled by the trial medicine **Peenisathuku Chooranam**.

The identification of suvaigal are on the basis of the individual ingredients of these preparations.

These drugs which are under the trials as got

Suvaigal-kaippu, thuvarppu

Thanmai- veppam

Pirivu- karppu.

The trial drug has thanmai veppam that eliminates the excessive kabam which is elevated due to raised vatham. So the medicine act as anti-vatha.

After ingestion, the drug is changed into vibagam karppu. At this stage, the trial drug acts as anti-kabam.

Peenisathuku chooranam act as anti-vatham on the basis of suvaigal,thanmai, vibagamand pirivu.

Thus **Peenisathuku Chooranam** was highly effective in **Pitha Thalai Nokkadu**.

S

ANNEXURE - I

Preparation of Trial Medicine

பீனிசத்துக்குச் சூரணம்:

”கடுகுரோகனியுங் கற்கடச சிங்குங்
கனத்தபல முன்று கண்டங்கத் திரிவேல்
சடமாஞ்சி சிறுதேக் கிந்துப்பு நாலுஞ்
சரியாக பலமொன்று இடித்த தூளை
வடிகட்டி வெருகடிச் சூரணத்தைத் தானும்
வகையான தேன்கூட்டி யந்தி சந்தி
திடனே யுண்டு பார்வாத ரோகஞ்
தீரும் பனிசமெல்லாஞ் செய்துபாரே”

(சரபேந்திர வைத்திய முறைகள் - சிரரோக சிகிச்சைஇ பக்கம்-119)

தேவையான சரக்குகள்:

கடுகுரோகிணிஇ கற்கடகசிங்கி வகைக்கு 3 பலம்.

கண்டங்கத்திரிவேர்இ சடாமாஞ்சில் இ சிறுதேக்குஇ இந்துப்பு இவைகள் வகைக்கு 1 பலம்.

செய்முறை:

இவைகளை நன்றாக உலர்த்திஇ கல்லுரலில் இட்டு இடித்து, சூரணம் செய்து, வெருகடி (மூவிரல் செங்குத்தாகச் சேர்த்து எடுக்கும் அளவு) சூரணமெடுத்து, தேனில் குழைத்து காலையிலும் மாலையிலும் உணவிற்கு பின் சாப்பிட்டு வர பீனிசம், வாதம் தீரும்.

PROPERTIES OF THE DRUGS

கடுகுரோகிணி

Synonym : Picrorhiza

Botanical Name : Picrorrhiza kurroa

Commonname : Katukarogini

Family : Scrophulariaceae

Part used : Dried rhizome

Siddha properties:

Siddha name : Kadugurogini, Kadagarogini

Suvai : Kaippu, Karrpu

Thanmai : Veppam

Vipakam : Karppu

Pharmacological actions: Bitter, stomachic, anti-periodic and cholagogue**.**

Phytochemical constituent: Roots contains glucoside – Picrorrhizin, and also contains other substances such as glucose, wax, cathartic acid etc.,

(Ref: INDIAN MATERIA MEDICA – Volume 1, page 953)

"மாந்தம் **சுரமையம்** வாயுகரப் பனாமஞ்
சேர்ந்தமலக் கட்டு **திரிதோடம்** போந்தபொட்டும்
புண் வயிறு நோயிவைபோம் பொற்கொடியே பேதியுண்டாம்
கிண்கடுகு ரோகணிக்குத் தேர்"

ப.கு.வி-பக்கம்:155

ஐயப்பெருக்கு, மாந்தம், **சுரம், திரிதோடம்,** மலக்கட்டு, புண், பேதி, இவைகள் போம்.

கற்கடகசிங்கி

Synonym **:** The galls

Botanical Name **:** Rhus succedanea

Common name **:** Karkadagashingi

Family : Anacardiaceae

Part used : Galls

Siddha properties:

Siddha name : Karkaadagashingi

Suvai : Thuvarppu

Thanmai : Veppam

Vipakam : Karppu

Pharmacological actions: Astringent, tonic, expectorant and stimulant.

Phytochemical constituents:Essential oil 1.21%, crystalline hydrocarbon 3.4%, tannin substance 60%, gum mastic 5%.

(Ref:INDIAN MATERIA MEDICA Volume 1, page-1062)

"கர்க்கடக சிங்கி **கபங்காசம் ஈளையொடு**
முக்கல் கிராணி முதிரிரைச்சல் -பொக்கெனவே
காடுகின்ற பேதியையுஞ் சாடும் அரிவையரைக்
கூடுதிறங் கொடுக்குங் கூறு."

ப.கு.வி -பக்கம்:164

ஐயத்தாலுண்டாகும் இருமல், கபமஇ காசம், ஈளை, கிராணி , பேதி, வயிற்று இரைச்சல் முதலியன நீங்கும்.

கண்டங்கத்திரி :

Synonym : Wild eggs pland

Botanical name : Solanum surattense

Common name : Kandangkattari

Family : Solanaceae

Parts used : Root

Siddha properties :-

Siddha name : Kandangkattari

Suvai : Thuvarppu, kaippu

Thanmai : Veppu

Vippakam : Karppu

Pharmacological action : Expectorant, carminative, diuretic

Phytochemical constituents:

The plant contains glycosides namely Solasodine, Diosgenin, Tomatidenol and alpha-solamagine. It contains fatty acids like Lionelic acid, Oleic acid and Syearic acid.

"வேரிலைபூ காய்பழமவ் வித்துமதன் பட்டையுமிவ்
வூரி லிருக்க உடற்கனப்பும் -நீராய
வரும்**பீநு சங்**கயஞ்சு வாசமுந்தங் காதே
அறங்கண்டங் கத்தரியு னார்."

ப.கு.வி-பக்கம்:-165

உடல் **நீரேற்றல், மூக்கில் நீர்பாய்தல்,** கயம், இரைப்பு இவை போம்.

சடாமாஞ்சில்

Synonym	**:** Valerian root
Botanical name	**:** Nardostachys grandiflora
Common name	**:** Jadamanji
Family	**:** Velarinaceae
Parts used	**:** Root
Siddha properties	**:**
Siddha name	**:** Paisasi, mamisi boothasesini, sadilai
Suvai	**:** Innipu, karppu
Thanmai	**:** Veppam
Vippakam	**:** Karppu

Pharmacological action : Stimulant, expectorant, antispasmodic

"குட்டஞ் சிலந்திவிடம் கோர புராண சுரம்
உட்டிங்கால் பேதிகண்ணோய் ஒட்டிருமல் சொட்டிரத்த
பித்தமிரைப் பேதம் பெருங்கோரை என்றுரைக்குஞ்
சுததசடா மாஞ்சிலை சொல்."

ப.கு-பக்கம்:303.

இதற்கு இருமல், இரைப்பு, பழையசுரம், வாய்வு கண்ணோய், குட்டம், சிலந்திவிடம் நீங்கும்.

சிறுதேக்கு

Synonym : Beetle Killer

Botanical name : Clerodendrum serratum

Common name : Bhargi

Family : Verbenaceae

Parts used : Leaf, Root

Siddha properties:

Siddha name : Kandupparangi, anagaravalli

Suvai : Kaippu, thuvarppu

Thanmai : Veppam

Vippakam : Kaarppu

Pharmacological action : Stimulant, sedative, febrifuge

Phytochemical constituents : The leaves contains alkaloids and bitter substances. The root contains sapogenin and turpentine, starch and resin. Root bark contains glucose and D-mannitol. Hydrolysis of crude saponin from bark yielded oleanolic acid, queretaroic acid and serratagenic acid.

"கண்டுபா ரங்கியெனுஞ் சிறுதேக குண்டலே
காலெங்கேபித்த மெங்கே **கபந்தா** னெங்கே
தொண்டுதொட்டுத் தொடர்**சுவாச காச** மெங்கே
சுரமெங்கே வெறியெங்கே தொனிநோ யெங்கே
மிண்டுபுரி **பீநசநீர்ச் கோவை** யெங்கே
வெளிநீருண் ணீரெங்கே விறந்கா லெங்கே
அண்டுபடாச் சீதசுரங் கடும்பு மெங்கே
யழலையக நோயெங்கே யறைகு வீரே"

ப.கு.வி- பக்கம்-169

இதனால் முக்குற்றம், **மூக்கில் நீர் வடிதல், முன்நீர்க்கோவை, பின்நீர்க்கோவை,** சீதசுரம், கடுப்பு, அழல் திரும்.

இந்துப்பு

Synonym : Sindhavam, Sindhuram, Santhiranuppu, Mathi koormai

Common name : Indhuppu, Rock Salt

Siddha properties :

Siddha name : Indhuppu

Suvai : Uppu

Thanmai : Veppam

Vippakam : Inippu

Pharmacological action: Laxative, Carminative, Stomatchic

”சென்னிக்கண்ணா பற்றூர் வெசிகவுன்கண் டம்பகநோய்
சந்நியா சங்காசந் தாகமிரைப் புன்னிரத்த
மூலஞ் சிலந்திநளி முடிகரஞ் சூதை வலி
சூலஞ் சிதையுமிந்தாற் சொல்.”

தலை, வழி, நா, தந்த மூலம், காது, கன்னம், கண்டம், யோனி, இவ்விடத்து நோய்கள், சந்நியாகம், நேத்திகாசம், சுவாசம், இரத்தமூலம், தூஷங்கள் வாதகடுப்பு, சூலை முதலியன் நீங்கும்.

ANNEXURE - II

BIO – CHEMICAL ANALYSIS OF PEENISATHUKU CHOORANAM

PREPARATION OF THE EXTRACT

5gms of the drug was weighed accurately and placed in a 250ml clean beaker. Then 50ml of distilled water is added and dissolved well. Then it is boiled well for about 10 minutes. It is cooled and filtered in a 100ml volumetric flask and then it is made up to 100ml with distilled water. This fluid is taken for analysis.

QUALITATIVE ANALYSIS

S. NO	EXPERIMENT	OBSERVATION	INFERENCE
1.	**TEST FOR CALCIUM** 2ml of the above prepared extract is taken in a clean test tube. To this add 2ml of 4 % Ammonium oxalate solution	A white precipitate is formed	Indicates the presence of Calcium
2.	**TEST FOR SULPHATE:** 2ml of the extract is added to 5% barium chloride solution.	No white precipitate is formed	Absence of Sulphate
3.	**TEST FOR CHLORIED** The extract is treated with silver nitrate solution	A white precipitate is formed	Indicates the presence of Chloride.
4.	**TEST FOR CARBONATE** The substance is treated with concentrated Hcl	No brisk effervescence is formed	Absence of Carbonate

5.	**TEST FOR STRACH** The extract is added with weak iodine solution.	No blue colour is formed	Absence of Starch.
6.	**TEST FOR IRON FERRIC** The extract is acidified with Glacial acetic acid and potassium ferro cyanide.	No blue colour is formed	Absence of Ferric Iron
7.	**TEST OF IRON FERROUS** The extract is treated with concentrated Nitric acid and ammonium thio cynaate solution.	Blood red colour is formed	Indicates the presence of ferrous iron.
8.	**TEST FOR PHOSPHATE** The extract is treated with ammonium Molybdate and concentrated nitric acid.	No yellow precipitate is formed	Absence of Phosphate.
9.	**TEST FOR ALBUMIN** The extract is treated with Esbach's reagent.	No yellow precipitate is formed.	Absence of Albumin
10.	**TEST FOR TANNIC ACID** The extract is treated with ferric choloride.	Blue black precipitate is formed	Indicates the presence of Tannic acid
11.	**TEST FOR UNSATURATION** Potassium permanganate	It gets decolourised	Indicates the presence of Unsaturated

	solution is added to the extract		compound.
12.	**<u>TEST FOR THE REDUCING SUGAR</u>** 5ml of Benedict's qualitative solution is taken in a test tube and allowed to boil for 2 mts and added 8-10 drops of the extract and again boil it for 2 mts.	Colour change occurs.	Indicates the presence of Reducing Sugar.
13.	**<u>TEST FOR AMINO ACID</u>** One or two drops of the extract is placed on a filter paper and dried it well. After drying, 1% Ninnydrin is sprayed over the same and dried it well.	No violet colour is formed	Absence of Amino acid
14.	**<u>TEST FOR ZINC:</u>** The extract is treated with potassium Ferro cyanide	No white precipitate is formed	Absence of Zinc.

ANNEXURE – III

ACUTE ANTI-INFLAMMATORY STUDIES ON PEENISATHUKU CHOORANAM

Aim

To study the acute anti-inflammatory effect on Peenisathuku Choornam

Preparation of trial medicine

1gm of the Peenisathuku Choornam was taken and dissolved in 10ml of hot water. A dose of 1ml was given to each rat. This 1ml contains 100mg of the trial medicine.

Procedure

The anti-inflammatory activity of Peenisathuku Choornam was studied in healthy albino rats weighing 100-150gms. Nine rats were collected and divided into three groups each containing three rats.

First group was kept controlled by giving distilled water of 2ml/100 gm of body weight. The second group was given Ibuprofen as dose of 20mg/100gm of body weight. The third group received the trial medicine Peenisathuku Choornam of 200mg/100gm of body weight.

Before administration of trial medicine, the hindpaw volumes of all rats were measured. This was done by dipping the hindpaw upto tibiotarsal junction, into mercury plethysmography. While dipping the hindpaw, by pulling the Syringe piston, the level of mercury in the center small tube was made to coinside with red marking and reading was noted from the plethysmograph.

Soon after the measurement, the medicines were administered orally. One hour later, a subcutaneous injection of 0.1ml of 1% (W/V) carrageen in water was made into plantar surface of both hind paw of each rat.

Three hours after carrageenin injection, hindpaw volume was measured once again. The difference between the initial and final volume was calculated and compared.

This method is more suitable for studying the anti-inflammatory activity in acute inflammation. The values are given in the table.

Effect of PEENISATHUKU CHOORNAM:

Group	**Dose/ 100mg Body weight**	**Initial Reading In secs**	**Final Readings**	**Mean Difference**	**% of inflammation**	**% of in hibition**
Control Water	2 ml	0.55	1.4	0.85	100	NIL
Standard Ibuprofen	20 mg	0.55	0.75	0.2	23.5	76.5
Peenisathuku Choornam	100 mg	0.6	0.9	0.3	35.2	64.8

Result:

From the above experiment it was concluded that the Peenisathuku Choornam has significant acute anti inflammatory action.

ANALGESIC STUDY ON
PEENISATHUKU CHOORANAM
(In Albino rats by hot water bath method)

Aim

To study the analgesic effect of Peenisathuku Chooranam.

Preparation of the trial medicine

1gm of Peenisathuku Chooranam was taken and dissolved in 10ml of the hot water. A dose of 1ml was given to each rat.

Procedure

Three groups of healthy albino rats on both sexes were selected. Each group having 3 rats, weighing between 100 to 150gm. The hot water bath was maintained at the temperature of 55^0C.

The tail was dipped into the bath, and the time taken for each rat to remove its tail from the hot water bath was noted. The rat which taken more than 5sec for removal of its tail from hot water bath was excluded from the experiment.

First group was kept controled by giving distilled water of 1ml per 100mg of body weight.

The second group was given paracetamol 20 mg per 100mg of body weight.

The third group was given trail medicine.

30 minutes after Medicines administration, the tail of each rat was dipped into hot water bath one by one. The time taken for each rat to remove its tail was noted. The whole experiment was repeated after 30 minutes.

The results of control, standard and trial medicine groups were tabulated and compared.

Effect of Peenisathuku Choornam

S.No	Groups	Dose/100gm Body weight	Initial reading	After Medicines Administration	
				After ½ hr	After 1 hr
1.	Control (water)	2ml	2.0 secs	2.0secs	2.0 secs
2.	Std (Paracetamol)	20mg	2.5 secs	4.5	6.5 secs
3.	**Peenisathuku Chooranam**	100 mg	2.0secs	3.0 secs	4.5 secs

Inference

It is observed that Peenisathuku Chooranam has **moderate** analgesic action.

ANTI HISTAMINE STUDY OF PEENISATHUKU CHOORANAM (ON ISOLATED GUINEA PIG ILEUM)

Aim:

To study the Anti Histamine effect of Peenisathuku Chooranam on isolated Guinea Pig ileum – Burn – 1952.

Preparation of the test drug:

1 gram of Peenisathuku Chooranam was dissolved in 10ml of water. Then it was used for the experiment.

Solutions Required:

Histamine	:	1 in 100000 strength.
Anti histamine	:	(Pheniramine Maleate) 2.5mg/ml.
Test drug	:	(Peenisathuku Chooranam) 10mg/ml.

Nutrient Solution:

Tyrode Solution 1-2 litres.

Tissue used:

Guinea pig ileum.

Apparatus Required:

Student organ bath, Sherrington rotating drum, scissors, cotton thread etc.

Procedure:

An overnight fasted Guinea pig weighing about 400 grams was sacrificed by a blow on the head and by carotid bleeding. The abdomen was suddenly opened and ileo-caecal junction was found out. A small piece of ileal portion was cut and removed and placed in a dish containing warm aerated tyrode solution. The contents of lumen of ileum were gently rinsed by pushing tyrode solution into it. 3cm length segment was cut from this part of ileum, and was tied with thread on both ends separately without closing the lumen and the

tissue was mounted in an organ bath containing Tyrode solution maintained at 37^{o}c and bubbled with air by oxygen tube.

First the drum was allowed to run for 1 minute to record the baseline. Drugs were given to study the inhibiting effect of histamine; 0.2ml of Histamine was added and allowed to run the drum for 30 seconds. Thus the tissue was standardized and then the drum was stopped and the histamine was stopped out. Again Tyrode solution was added to the organ bath till the level comes to baseline. The drum was allowed to run for1 minute.

To the organ bath, 1ml of test drug was added, waited for 1 minute and 0-2ml of histamine was added and the drum was allowed to run for 30 seconds, to record the inhibitory action of the test drug.

Again the recording were repeated by adding 0.2ml of Antihistamine and 0.2ml histamine and the drum was allowed to run for 30 seconds to record the antagonistic action of Antihistamine.

There was an elevation in the graph from the baseline. Then 0.2ml of Histamine was added to standardize the tissue. Then the base line was labeled and fixed.

Inference:

From the graph it is inferred that the test drug antagonize the effect of Histamine when added together. So the drug PEENISATHUKU CHOORANAM has got **Significant Anti-Histamine activity.**

ANTI – MICROBIAL STUDY OF PEENISATHUKU CHOORANAM BY KIRBY – BAUER METHED

AIM

To determine the Antimicrobial activity of Peenisathuku chooranam.

COMPONENTS OF MULLER HINTON AGAR MEDIUM:

Beef Extract	:	300 gms/lit
Agar	:	17 gms/lit
Starch	:	1.5 gms/lit
Casein hydroxylate	:	17.5 gms/lit
Distilled water	:	1000 ml
PH	:	7.6

PROCEDURE

The method of antimicrobial activity study is ups Diffusion Method.

Antibiotic discs are prepared with known concentration of antibiotic are placed on agar plates that has been inoculated with the known pathogenic Micro organism. The antibiotic diffuses through the agar producing an antibiotic concentration. Gradient antimicrobial susceptibility is proportional to the diameter of the inhibitory zone around the disc. If the micro organism which grows upto the edge of the disc are resistant to the anti microbial agent.

The recommended medium in this method is Muller Hinton Agar; its PH should be between 7.2 – 7.6 and should be poured to uniform thickness of 4mm in the petri plate (25ml)

Methodology:

Muller Hinton Agar plates are prepared and pseudomonas, Vibrio cholera, Escherichia coli, Bacillus, klebsiella, Streptococcus are inoculated separately.

The prepared discs of Peenisathuku chooranam are placed over the incubated plate using sterile forceps and incubated for 24 hours at 37° celcius. The plates after 24 hours incubation are observed for the zone of inhibition.

RESULT

S. No	Test Drug	Organisms (Culture)	Susceptibility	Zone size (mm)
1	Peenisathuku Chooranam	Escherichia coli	Sensitive	19mm
2		Klebsiella	Resistant	-
3		Proteus	Moderatively sensitive	11mm
4		Staphylococcus aureus	Moderatively sensitive	11mm
5		Streptococcus pneumonia	Resistant	-
6		Pseudomonas aeruginosa	Resistant	-

REPORT

Peenisathuku chooranam is Sensitive to Escherichia coli and Moderatively sensitive to Proteus and Staphylococcus aureus.

MALAR MICRO DIAGNOSTIC CENTRE

134/59-1, Tiruchendur Road, Palayamkottai - 627002

Phone - Lab : 2583954, Res : 2583955

REPORT OF MICROBIOLOGICAL ANALYSIS OF

PEENISATHUKU CHOORANAM

S.No	Test Drug	Organism (Culture)	Susceptibility	Test zone size	Control zone size
1.	PEENISATHUKKU CHOORANAM	Escherichia coli	Sensitive	19mm	21mm
2.		Klebsiella	Resistant		
3.		Proteus	Moderately sensitive	11mm	17mm
4.		Staphylococcus aureus	Moderately sensitive	11mm	17mm
5.		Streptococcus pneumoniae	Resistant		
6		Pseudomonas aeruginosa	Resistant		

Dr.R.NAPOLEON B.Sc. M.D

CONSULTANT MICROBIOLOGIST.

TIRUNELVELI.

Dear Doctor,

Thank you for your reference. If the result is not correlating with the clinical impression, please inform us to repeat the test with a fresh sample.

GOVERNMENT SIDDHA MEDICAL COLLEGE & HOSPITAL,

PALAYAMKOTTAI, TIRUNELVELI DISTRICT.

DEPARTMENT OF POTHU MARUTHUVAM

PRECLINICAL AND PHASE - II RANDOMIZED CLINICAL TRIAL

ON

PITHA THALAI NOKKADU (SINUSITIS) WITH PEENISATHUKU CHOORANAM.

FORM-I

(SCREENING AND SELECTION PROFORMA)

1. Name_____ 2.Age_____ 3.gender_____

4. Phone no _____

5. OP No. _____ 6. IP No. _____7. S.No._____

INCLUSION CRITERIA:

- Age : 13 – 60Yrs
- Sex : Both male and female
- Patients having symptoms of headache,sneezing,nasal congestion and discharge,post nasal drip,rhinitis,fasial pain etc.,
- Patients who are willing to undergo radiological investigation and give blood for laboratory investigations.
- Patient willing to sign the informed consent stating that he/she will consciously stick to the treatment during 30 days but can opt out of the trial of his/her own conscious discretion.

EXCLUSION CRITERIA:

- Paediatric patient less than 13 years
- Epistaxis.
- Bronchial Asthma
- Facture & Tumours of nose
- Tuberculosis
- Syphilis

- Patient with any other serious illness

DATE :

STATION :

SIGNATURE OF INVESTIGATOR: SIGNATURE OF HOD:

SIGNATURE OF READER/LECTURER:

GOVERNMENT SIDDHA MEDICAL COLLEGE & HOSPITAL,

PALAYAMKOTTAI, TIRUNELVELI DISTRICT.

DEPARTMENT OF POTHU MARUTHUVAM

PRECLINICAL AND PHASE - II RANDOMIZED CLINICAL TRIAL ON PITHA THALAI NOKKADU (SINUSITIS) WITH PEENISATHUKU CHOORANAM.

FORM I A

HISTORY PROFORMA ON ENROLLMENT

1. Serial No of the case: _____

2. OP/IP No:_____

3. Name: _____ 4. Gender: Male ☐ Female ☐

5. Age (years): _____ DOB ☐☐ ☐☐ ☐☐☐☐

Date Month Year

6. Address: ----------

---

7. A.Occupation: ---------- B. Nature of work----------

8. Educational Status: A) Illiterate ☐ B) Literate ☐

9. Height: ---------- cms 10.Weight:----------kg

11. Complaints and Duration:

12. History of past illness YES NO

- Allergy ☐ ☐
- Common cold ☐ ☐
- Dental sepsis ☐ ☐
- Septal injury ☐ ☐
- Nasal septal defect ☐ ☐
- Nasal polyp ☐ ☐
- Fracture of nasal bones ☐ ☐

13. Habit of

A) Smoking: 1. Yes ☐ duration _____ years; Number - _____

2. No ☐

Past H/O Chronic Smoking:

B) Alcoholism: 1. Yes ☐ duration _____ years; Quantity- ___ml

2. No ☐

C) Tobacco chewing: 1. Yes ☐ duration _____ years, 2.No ☐

D) Betel chewing : 1. Yes ☐ duration _____ years, 2.No ☐

14. Dietary style: A.Pure vegetarian ☐ B.Non-vegetarian ☐

15. Drug history: Had the patient been treated before with allopathy drug?

1) Yes ☐ 2) No ☐

16. Marital status: 1.Married ☐ 2.Unmarried ☐

17. Family history:

Whether this problem runs in family: 1. Yes ☐ 2.No ☐

If yes, mention the relationship of affected person(s) _____

18. Menstrual history:_____

19. Bowel habits & micturition: Normal ☐ Abnormal ☐

20. Psychological state: Normal ☐ Anxiety ☐ Depression ☐

DATE :

STATION :

SIGNATURE OF THE INVESTIGATOR SIGNATURE OF HOD

SIGNATURE OF THE READER/LECTURER

GOVERNMENT SIDDHA MEDICAL COLLEGE & HOSPITAL,

PALAYAMKOTTAI, TIRUNELVELI DISTRICT.

DEPARTMENT OF POTHU MARUTHUVAM

PRECLINICAL AND PHASE - II RANDOMIZED CLINICAL TRIAL ON PITHA THALAI NOKKADU (SINUSITIS) WITH PEENISATHUKU CHOORANAM.

FORM II & II-A

CLINICAL ASSESSMENT ON ENROLLMENT

1. S.NO: _____ 2. OPD/IPD NO : _____

3. Name**:** _____ 4. Age:_____

5. Gender: _____ 6. Date of assessment: _____

SIDDHA SYSTEM OF EXAMINATION

1. ENVAGAI THERVU: [EIGHT-FOLD EXAMINATION]

I. NAADI: [PULSE PERCEPTION]

Naadi	0st Day	07th Day	14th Day	21st Day	28th Day	30th Day
Vali						
Azhal						
Iyyam						
Vali Azhal						
Azhal vali						
Iyya vali						
Vali Iyyam						
Azhal Iyyam						
Iyya Azhal						

II. NAA:[TONGUE]

NAA	0th Day	07th Day	14th Day	21st Day	28th Day	30th Day
Colour	Dark/ Yellow/ Red/ Pale	Dark/ Yellow/ Red/ Pale	Dark/ Yellow/ Red/ Pale	Dark/ Yellow/ Red/ Pale	Dark/ Yellow/ Red/ Pale	Dark/ Yellow/ Red/ Pale
Taste	Sweet/ Bitter/ Sour/ Pungent/ None	Sweet/ Bitter/ Sour/ Pungent/ None	Sweet/ Bitter/ Sour/ Pungent/ None	Sweet/ Bitter/ Sour/ Pungent/ None	Sweet/ Bitter/ Sour/ Pungent/ None	Sweet/ Bitter/ Sour/ Pungent/ None
Coating	Present/Absent	Present/ Absent	Present/ Absent	Present/ Absent	Present/Absent	Present/Absent
Fissure	Present/Absent	Present/ Absent	Present/ Absent	Present/ Absent	Present/Absent	Present/Absent
Saliva	Normal/Increased/Decreased	Normal/Increased/Decreased	Normal/Increased/Decreased	Normal/Increased/Decreased	Normal/Increased/Decreased	Normal/Increased/Decreased
Dryness	Present/Absent	Present/ Absent	Present/ Absent	Present/ Absent	Present/Absent	Present/Absent
Glossitis	Present/Absent	Present/ Absent	Present/ Absent	Present/ Absent	Present/Absent	Present/Absent

III.NIRAM: COLOUR [COMPLEXION]

0th Day	07th day	14th Day	21st Day	28th Day	30th day
Dark/ Yellow/ tinted/ Pale	Dark/ Yellow/ tinted/ Pale	Dark/ Yellow/ tinted/Pale	Dark/ Yellow/ tinted/Pale	Dark/ Yellow/ tinted/Pale	Dark/ Yellow/ tinted/ Pale

IV.MOZHI: [VOICE]

0th Day	07th day	14th Day	21st Day	28th Day	30th day
Medium/ High/ Low Pitched	Medium/ High/ Low Pitched	Medium/ High/ Low pitched	Medium/ High/ Low pitched	Medium/ High/ Low pitched	Medium/ High/ Low pitched

V.VIZHI: [EYES] (Lower palpabrel conjunctiva)

0th Day	07th day	14th Day	21st Day	28th Day	30th day
Dark/ Yellow/ Red/ Pale	Dark/ Yellow/ Red/ Pale	Dark/ Yellow/ Red/ Pale	Dark/ Yellow/ Red/ Pale	Dark/ Yellow/ Red/ Pale	Dark/ Yellow/ Red/ Pale

VI. MALAM: [BOWEL HABITS / STOOLS]

MALAM	0th Day	07th Day	14th Day	21stDay	28th Day	30th day
Colour	Dark/ Yellow/Red/ Pale	Dark/ Yellow/ Red/ Pale	Dark/ Yellow/ Red/ Pale	Dark/ Yellow/Red/ Pale	Dark/ Yellow/ Red/ Pale	Dark/ Yellow/ Red/ Pale
Consistency	Solid/ Semisolid / Watery	Solid/ Semisolid/ Watery	Solid/ Semisolid/Watery	Solid/ Semisolid /Watery	Solid/ Semisolid /Watery	Solid/ Semisolid /Watery
Quantity	Normal/ Reduced	Normal/Reduced	Normal/ Reduced	Normal/ Reduced	Normal/ Reduced	Normal/ Reduced
Constipation	Present/ Absent	Present/ Absent	Present/ Absent	Present/ Absent	Present/ Absent	Present/ Absent

VII. URINE EXAMINATION:

NEERKURI	0th Day	07th day	14th Day	21st Day	28th Day	30th Day
Niram [Colour]	White/Yellowish/Straw coloured/ Crystal clear	White/Yellowish/Straw Coloured/ Crystal clear	White/Yellowish/Straw coloured/ Crystal clear	White/Yellowish/Straw coloured/ Crystal clear	White/Yellowish/Straw coloured/ Crystal clear	White/Yellowish/Straw coloured/ Crystal clear
Manam [Odour]	Present/ Absent	Present/ Absent	Present/ Absent	Present/ Absent	Present/ Absent	Present/ Absent
Nurai [Frothy]	Nil/ Reduced/ Increased	Nil/ Reduced/ Increased	Nil/ Reduced/ Increased	Nil/ Reduced/ Increased	Nil/ Reduced/ Increased	Nil/ Reduced/ Increased

Edai [Volume]	Normal/ Increased /Reduced	Normal/ Increased /Reduced	Normal/ Increase/ Reduced	Normal/ Increased/ Reduced	Normal/ Increased /Reduced	Normal/ Increased /Reduced
Enjal [Deposits]	Present/ Absent	Present/ Absent	Present/ Absent	Present/ Absent	Present/ Absent	Present/ Absent

NEIKURI	**0^{th} Day**	**7th day**	**14th Day**	**21st Day**	**28th Day**	**30th Day**
VATHAM:Serpentine fashion						
PITHAM:Annular/Ringed fashion						
KABAM:Pearl beaded fashion						
THONTHAM:Mixed fashion						

VIII. SPARISAM: [PALPATORY PERCEPTION]

0^{th} Day	**7th day**	**14th Day**	**21st Day**	**28th Day**	**30th day**
Warmth/ Cold/Sweat	Warmth/Cold/Sweat	Warmth/Cold/Sweat	Warmth/ Cold/Sweat	Warmth/ Cold/Sweat	Warmth/ Cold/Sweat

2. THEGI: [TYPE OF BODY CONSTITUTION]

Vatham-_____ Kabam-_____

Pitham-_____ Thondha udal - _____

3. NILAM: [LAND WHERE PATIENT LIVED MOST]

Kurinji ☐ Mullai ☐ Marutham ☐ Neithal ☐

Palai ☐

4. KAALAM:

Kaarkalam	-		Pinpanikalam	-	
Koothirkalam	-		Ilavenil	-	
Munpanikalam	-		Muthuvenil	-	

5. MUK GUNAM:

Sathuvam Rasatham Thamasam

6.IMPORIGAL (SENSORY ORGANS)

	0^{th} Day	**7th day**	**14th Day**	**21st Day**	**28th Day**	**30th Day**
Mei (Skin)						
Vai (Buccal Cavity)						
Kann (Eye)						
Sevi (Ear)						
Mooku (Nose)						

7. KANMENDRIYAM (MOTOR SYSTEM)

	0^{th} Day	**7th day**	**14th Day**	**21st Day**	**28th Day**	**30th Day**
Kai (upper limb)						
Kaal (lower limbs)						

Vai (buccalcavity)						
Eruvaai (excretory organs)						
Karuvaai (reproductive organs)						

8. KOSANGAL (Sheath)

	0th Day	**7th day**	**14th Day**	**21st Day**	**28th Day**	**30th Day**
Annamaya Kosam						
Pranamaya kosam						
Manomaya kosam						
Vignanamaya kosam						
Ananthamaya kosam						

9. MUKKUTRAM:[THREE HUMORS]

A) VATHAM:

VATHAM	0th Day	7th day	14th Day	21st Day	28th Day	30th Day
Praanan						
Abaanan						
Viyaanan						
Udhaanan						
Samanan						
Naagan						
Koorman						
Kirukaran						
Devathathan						
Dhananjeyan						

B) PITHAM:

PITHAM	0th Day	7th day	14th Day	21st Day	28th Day	30th Day
Analpitham						
Ranjagam						
Saathagam						
Praasagam						
Aalosagam						

C) KABAM:

KABAM	0th Day	7th day	14th Day	21st Day	28th Day	30th Day
Avalambagam						
Kilaethagam						
Pothagam						
Tharpagam						
Santhigam						

10. SEVEN DHATHUS: (7 SOMATIC COMPONENTS)

	0th Day	7th day	14th Day	21st Day	28th Day	30th Day
Saaram [Chyme]						
Senneer [Blood]						
Oon [Muscle]						
Kozhuppu [Fat]						
Enbu [Bones]						
Moolai [Bone marrow]						
Sukkilam/ Suronitham [Genital discharges]						

11. SYSTEMIC EXAMINATION:

	0^{th} Day	**7th day**	**14th Day**	**21st Day**	**28th Day**	**30th Day**
Locomotor system						
Cardiovascular system						
Respiratory system						
Gastro intestinal system						
Central nervous system						
Urogenital system						
Endocrine system						

12. GENERAL EXAMINATION:

	0^{th} Day	**7th Day**	**14th Day**	**21st Day**	**28th Day**	**30th Day**
Height (cms)						
Weight (kg)						
Temperature (F^0)						
Pulse rate (per min)						
Heart rate (per min)						
Respiratory rate (per min)						
Blood pressure (mm/Hg)						
Anaemia						

Jaundice						
Cyanosis						
Lymphadenopathy						
Pedal edema						
Clubbing						
Jugular vein pulsation						

13. CLINICAL SYMPTOMS

S.No	Clinical symptoms	0th Day	7th Day	14th Day	21st Day	28th Day	30th Day
1.	Headache						
2.	Sneezing						
3.	Nasal congesion						
4.	Post nasal drip						
5.	Tenderness in a)over eyebrows b)over bridge of nose c)occipital region d)cheeks						
6.	Heaviness of head						
7.	Lacrimation						
8.	Itching/irritation of eyes						
9.	Swelling of face						
10.	Halitosis						
11.	Reduction in sense of taste						

DATE :

STATION :

SIGNATURE OF THE INVESTIGATOR: SIGNATURE OF THE HOD:

SIGNATURE OF THE READER/ LECTURER:

GOVERNMENT SIDDHA MEDICAL COLLEGE & HOSPITAL,

PALAYAMKOTTAI, TIRUNELVELI DISTRICT.

DEPARTMENT OF POTHU MARUTHUVAM

PRECLINICAL AND PHASE - II RANDOMIZED CLINICAL TRIAL ON PITHA THALAI NOKKADU (SINUSITIS) WITH PEENISATHUKU CHOORANAM.

FORM III

LABORATORY PARAMETERS - CHART

1. S.No :_____2.OPD/IPDNo: _____

3. Bed No :_____ 4. Name: _____

5. Age : _____ Years 5. Gender: Male ☐ Female ☐

INVESTIGATION:

I.BLOOD

S.No		NORMAL VALUES	BEFORE TREATMENT	AFTER TREATMENT
1.	TC (million/ cu.mm)	Male - 4.30 – 5.60 Female - 4.00 – 5.20		
2.	DC	3.54 – 9.06 $\times 10^3$ /mm^3		
	Neutrophils	40 – 70%		
	Lymphocytes	20 – 50%		
	Monocytes	4 – 8 %		
	Eosinophils	0 – 6 %		
	Basophils	0 – 2%		
3.	ESR	Male – 0 – 15 mm/hr Female – 0 – 20 mm/hr		
	½hr			
	1 hr			
4.	Haemoglobin	Male - 13.3 – 16.2 g/dL Female – 12.0 – 15.8 g/Dl		
5.	Blood sugar (F/R/PP)	Fasting – 75 – 110mg/dL		
6.	Blood urea	20 – 40 mg/ dL		
7.	Serum creatinine	Male - 0.6 – 1.2 ng/mL Female – 0.5 – 0.9 ng/mL		
8.	Serum cholesterol	< 200 Desirable 200 – 239 Borderline high ≥ 240 High		

II. URINE:

Albumin -

Sugar -

Deposits -

III. RADIOLOGICAL INVESTIGATION:

X – Ray Skull - PNS view

DATE:

STATION:

SIGNATURE OF INVESTIGATOR: SIGNATURE OF HOD:

SIGNATURE OF READER/LECTURER:

GOVERNMENT SIDDHA MEDICAL COLLEGE & HOSPITAL,

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FORM-IV A

CONSENT FORM

CERTIFICATE BY INVESTIGATOR

I certify that I have disclosed all details about the study in the terms readily understood by the patient.

Date: …….. Signature : …….

Name : ……..

CONSENT BY PATIENT

I have been informed to my satisfaction, by the attending physician, the purpose of the clinical trial, and the nature of drug treatment and follow-up including the laboratory investigations to be performed to monitor and safeguard my body functions.

I am aware of my right to opt out of the trial at any time during the course of the trial without having to give the reasons for doing so.

I, exercising my free power of choice, hereby give my consent to be included.

As a subject in the clinical trial of **PEENISATHUKU CHOORANAM** of **PITHA THALAI NOKKADU (SINUSITIS).**

Date: …….. Signature: ……

Place: ……. Name: ……

Signature of Witness: ……..

Name: ……..……

Relationship: ……

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FORM IV D

DIETARY ADVICE FORM

- குளிர்ந்த நீர், குளிர்பானம், குளிர்ச்சியான பழங்கள் நீக்கவும்.
- பஞ்சாலை, சிமெண்ட் தொழிற்சாலை மற்றும் தூசு நிறைந்த இடத்தில் வேலை செய்வதை தவிர்க்கவும்.
- புகை பிடித்தல், மது அருந்துதல், புகையிலை தவிர்க்க வேண்டும்.
- சிற்றீச்சம்பாயில் படுத்து உறங்க கப நோய்கள் நீங்கும்.
- பிராணாயாமம் (மூச்சுப் பயிற்சி) செய்து பழக வேண்டும்.
- சில யோகாசனங்கள் (புஜங்காசனம், சக்ராசனம், மச்சாசனம், மயூராசனம், பாதஹஸ்தாசனம், அரை மச்சேந்திராசனம், திரிகோனாசனம், சவாசனம்) செய்வது நன்று.

சேர்க்க வேண்டிய உணவு வகைகள்:

காய்: கத்திரி, பேய்ப்புடல், அவரை, கண்டங்கத்திரி, அத்தி, பீர்க்கு, மாவடு, வாழைக்காய், முருங்கை, சுண்டை.

கிழங்கு வகைகள்: முள்ளங்கி,ஈருள்ளி, இஞ்சி,கருணைத்தண்டு.

கீரை:மணத்தக்காளி, கரிசாலை, பீளை, வசலை, சிறுகீரை, மணலிக்கீரை,பரட்டைக்கீரை, புளியாரைக் கீரை.

தவிர்க்க வேண்டியவை உணவு வகைகள்:

கடுகு, மாங்காய், பூண்டு, புகையிலை, பீர்க்கு, பெருங்காயம், நல்லெண்ணெய், தேங்காய், பலாப்பழம், கொள்ளு, மது, வெங்காயம், வெல்லம், தயிர், வெண்ணெய், நெய், மீன், கருவாடு.

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PRECLINICAL AND PHASE - II RANDOMIZED CLINICAL TRIAL ON PITHA THALAI NOKKADU (SINUSITIS) WITH PEENISATHUKU CHOORANAM.

FORM IV B

WITHDRAWAL FORM

Name: _____ OPD/ IPD number: _____

Age : _____

Date of trial commencement: _____

Date of withdrawal from trial: _____

Reasons for withdrawal:

- Long absence at reportin : Yes ☐ No ☐
- Irregular treatment : Yes ☐ No ☐
- Shift of locality : Yes ☐ No ☐
- Increase in severity of symptoms : Yes ☐ No ☐
- Development of severe adverse drug reactions : Yes ☐ No ☐

DATE :

STATION :

SIGNATURE OFINVESTIGATOR: SIGNATURE OF HOD:

SIGNATURE OF READER/LECTURER:

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FORM IV

PATIENT INFORMATION SHEET

- Sinusitis is the inflamation of paranasal sinuses.
- It may due to infection, allergies and immune disorder.
- It may be due to exposure to cold air, tobacco smoke, dust, acrid fumes.
- It may get aggravated in emotional stress.
- Many herbal and mineral siddha preparations are available to treat sinusitis.
- The trial drug is prepared at the P.G Gunapadam lab of government siddha medical college & hospital, Palayamkottai, under the direct supervision of teaching faculties of P.G Pothu Maruthuvam and Gunapadam.

DETAILS OF THE TRIAL DRUG:

PEENISATHUKU CHOORANAM

DOSAGE : Two grams, two times after food.

ADJUVANT : Honey.

DURATION : 30 days .

- Patients are advised to avoid betel chewing, tobacco and smoking.
- Patients are advised to avoid exposure to allergens and cold climate.
- Patients are recommended to avoid stress and practice yoga including Pranayama.

அரசினர் சித்த மருத்துவக்கல்லூரி ரூ மருத்துவமனை
பாளையங்கோட்டை, திருநெல்வேலி மாவட்டம்

பட்டமேற்படிப்பு பொது மருத்துவத்துறை

பீனிசத்துக்குச் சூரணத்தின் பரிகரிப்புத் திறனைக் கண்டறியும்

மருத்துவ ஆய்வு தகவல் படிவம்

- பித்தத் தலை நோக்காடு அழற்சியினால் ஏற்படக்கூடியது.
- சித்த மருத்துவத்தில் அதிக அளவு மூலிகைகள் மற்றும் தாதுப் பொருள்கள் இந்நோய்க்கு மருந்தாகப் பயன்படுகிறது.
- ஏற்கனவே உபயோகத்தில் உள்ள இது போன்ற மருந்து இதுவரை நோயாளிகளிடம் எந்த வித பக்க விளைவுகளை ஏற்படுத்தவில்லை.
- இந்த மருந்து சிறப்பாக பித்தத் தலை நோக்காடு நோய்க்காக அங்கீகரிக்கப்பட்ட சித்த மருத்துவ நூலில் கூறப்பட்டுள்ளது.
- மேற்கண்ட மருந்தானது அரசினர் சித்த மருத்துவக் கல்லூரி, பாளையங்கோட்டையில் உள்ள பட்டமேற்படிப்பு குணப்பாடம் மருந்து செய் ஆய்வகத்தில் செய்து முடிக்கபட்டது.
- இந்த ஆராய்ச்சி சம்பந்தமாக சில கேள்விகளை கேட்கவும் தேவையான ஆய்வக பரிசோதனைக்கு தங்களை உட்படுத்தவும் உள்ளேன்.
- இது சம்பந்தமான தங்களது அனைத்து விவரங்களும் ரகசியமாக வைக்கப்படும் என உறுதியளிக்கிறேன்.
- இந்த ஆராய்ச்சியின் போது உடலுக்கு வேறுபாதிப்பு ஏற்படும் பட்சத்தில் அரசினர் சித்த மருத்துவக் கல்லூரி மற்றும் மருத்துவமனை, பாளையங்கோட்டையில் தக்க சிகிச்சை அளிக்கப்படும்.
- இந்த ஆராய்ச்சியில் சேர்ந்த பிறகு உங்களுக்கு விருப்பம் இல்லையெனில் எப்போது வேண்டுமானாலும் விலகி கொள்ளலாம்.
- உணவு முறையில் மருத்துவரால் கூறப்படும் பத்தியம் காக்குமாறு அறிவுறுத்தப்படுகிறது.
- மேலும் இந்த ஆராய்ச்சிக்கு ஐநுஊ அனுமதிச்சான்று பெறப்பட்டுள்ளது

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PRECLINICAL AND PHASE - II RANDOMIZED CLINICAL TRIAL

ON

PITHA THALAI NOKKADU (SINUSITIS) WITH PEENISATHUKU CHOORANAM.

FORM I E

ADVERSE DRUG REACTION FORM

Name: _____ OPD/ IPD No: _____

Age: _____

Date of trial commencement : _____

Date of withdrawal from trial : _____

Drug, dosage, route of administration**: PEENISATHUKU CHOORANAM –** 2gm (Internal) Two times a day after food with honey.

Laboratory findings: _____

Concomitant of drug: _____

Description of adversereaction: _____

Management of adverse drug reaction: _____

Adjustment of dose of drug if any: _____

Patient outcome: _____

DATE:

STATION:

SIGNATURE OF INVESTIGATOR: SIGNATURE OF HOD:

SIGNATUREOF READER/LECTURER:

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PRECLINICAL AND PHASE - II RANDOMIZED CLINICAL TRIAL

ON

PITHA THALAI NOKKADU (SINUSITIS) WITH

PEENISATHUKU CHOORANAM.

FORM IV C

(DRUG COMPLIANCE FORM)

Name: _____ Age/Sex: _____ S.no: _____

OPD/IPD no: _____ Date: _____ Bedno: _____

Name of the Drug : **PEENISATHUKU CHOORANAM**

Drugs issued date :

Drugs returned date :

S.NO	DATE	DRUG TAKEN TIME	
		MORNING/TIME	EVENING/TIME
Day 1			
Day 2			
Day 3			
Day 4			
Day 5			
Day 6			
Day 7			
Day 8			
Day 9			
Day 12			
Day 13			
Day 14			
Day 15			
Day 16			
Day 17			

Day 18			
Day 19			
Day 20			
Day 21			
Day 22			
Day 23			
Day 24			
Day 25			
Day 26			
Day 27			
Day 28			
Day 29			
Day 30			

DATE:

STATION:

SIGNATURE OF INVESTIGATOR: SIGNATURE OF HOD:

SIGNATURE OF READER/LECTURER

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- Fundamentals of Ear, Nose, and Throat by Shayamal Kumar
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LABORATORY INVESTIGATION

S.No	IP.NO	TC		DC						ESR				Bl.Sugar		Bl.Urea	
				N		L		E		BT		AT					
		BT	AT	BT	AT	BT	AT	BT	AT	1/2 hr	1 hr	1/2 hr	1 hr	BT	AT	BT	AT
1	2193	7000	7500	50	54	42	44	8	2	15	33	15	23	76	84	22	23
2	2313	8400	8300	67	59	29	40	6	1	17	35	16	20	90	92	35	34
3	2527	8300	8500	67	65	30	34	3	1	5	12	5	10	131	130	31	34
4	2622	8500	8400	58	59	38	40	4	1	11	23	10	22	123	110	24	24
5	2815	8000	8100	50	51	46	46	4	3	20	40	11	21	125	104	19	20
6	2819	8900	9100	65	64	31	35	4	1	16	35	13	25	107	98	28	23
7	2842	7000	7400	49	50	48	48	3	2	10	23	10	19	84	92	19	20
8	2999	7800	7700	56	57	28	39	16	4	16	22	12	17	71	76	17	18
9	3014	8900	8700	60	61	36	36	4	3	7	14	6	14	76	82	20	20
10	3032	8000	8200	57	58	41	40	2	2	8	18	8	16	140	132	20	20
11	3023	7900	8000	59	59	37	40	4	1	40	85	15	24	79	83	24	20
12	3122	7900	8300	64	64	32	33	4	3	7	14	7	14	84	85	13	15
13	3143	8200	8400	58	59	38	39	4	2	6	16	5	10	83	85	21	20
14	3316	9100	9300	60	61	33	37	7	2	4	10	4	9	70	76	22	22
15	3365	7500	7800	60	63	36	36	4	1	8	17	8	14	76	82	16	16
16	3546	9500	9400	68	66	22	31	10	3	4	29	5	28	102	113	10	12
17	3659	9100	9200	66	64	27	34	7	2	12	30	10	22	80	86	36	35
18	3694	7000	7300	65	63	26	35	9	2	15	30	11	23	85	101	14	14
19	3798	8400	8600	60	59	30	38	10	3	20	40	12	23	90	92	20	20
20	3799	7800	8200	54	58	35	41	11	1	15	32	5	11	91	102	28	26

LABORATORY INVESTIGATION

S.No	OP. NO	TC		DC						ESR				Bl.Sugar		Bl.Urea	
				N		L		E		BT		AT					
		BT	AT	BT	AT	BT	AT	BT	AT	1/2 hr	1 hr	1/2 hr	1 hr	BT	AT	BT	AT
1	44380	8000	8300	62	60	30	36	8	4	30	60	15	20	88	86	15	16
2	45343	9200	9100	63	61	30	36	7	3	10	30	10	15	77	85	30	28
3	45314	8500	8400	70	53	24	44	6	3	20	35	15	20	78	80	20	20
4	45505	8700	8600	57	57	36	39	7	4	27	55	20	35	102	100	13	15
5	46459	6700	6800	62	64	30	32	8	4	10	25	10	20	77	80	10	13
6	47486	10400	10300	68	60	22	36	9	4	15	32	10	22	86	85	20	22
7	47836	6100	8000	58	65	40	34	2	1	10	20	10	22	250	186	15	13
8	48509	8500	8600	64	66	30	31	6	3	8	20	5	12	86	98	39	25
9	50600	9800	9500	62	58	30	37	8	5	10	25	11	15	160	120	30	28
10	50628	8800	8500	58	62	37	36	5	2	5	12	4	10	114	110	22	23
11	50893	9800	9500	66	67	27	30	7	3	14	18	12	20	93	98	29	24
12	51140	7100	8000	55	60	40	38	5	2	11	21	11	19	80	84	22	24
13	55043	8700	8900	55	64	43	34	2	2	16	35	15	20	72	104	28	25
14	56336	7100	8200	66	63	30	36	4	1	9	15	8	15	75	82	20	22
15	58152	8200	8300	60	63	36	35	4	2	11	13	10	11	117	121	28	24
16	64269	7500	7900	65	66	30	32	5	2	13	17	11	14	86	84	18	22
17	76812	7200	7300	58	62	34	35	8	3	9	18	9	15	101	103	15	18
18	77099	7400	8000	59	60	36	36	5	4	13	27	11	17	75	82	12	16
19	81537	6500	7100	58	59	39	39	3	2	7	15	7	10	100	101	29	30
20	87037	8900	8700	63	64	31	33	6	3	16	42	15	22	117	120	29	26

LABORATORY INVESTIGATION

S.No	IP NO	Before treatment				After treatment				Before treatment			After treatment		
				Deposits				Deposits				Occult			Occult
		Albumin	Sugar	Pus Cells	Epi Cells	Albumin	Sugar	Pus Cells	Epi Cells	Ova	Cyst	Blood	Ova	Cyst	blood
1	2193	Nil	Nil	FEW	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
2	2313	Nil	Nil	NAD	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
3	2527	Nil	Nil	NAD	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
4	2622	Nil	Nil	3-5	NAD	Nil	Nil	-	NAD	-	-	-	-	-	-
5	2815	Nil	Nil	NAD	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
6	2819	Nil	Nil	1-2	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
7	2842	Nil	Nil	NAD	3-6	Nil	Nil	NAD	NAD	-	-	-	-	-	-
8	2999	Nil	Nil	NAD	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
9	3014	Nil	Nil	NAD	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
10	3032	Trace	+	1-2	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
11	3023	Nil	Nil	2-3	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
12	3122	Nil	Nil	1-2	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
13	3143	Nil	Nil	NAD	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
14	3316	Nil	Nil	NAD	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
15	3365	Nil	Nil	3-5	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
16	3546	Nil	Nil	NAD	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
17	3659	Nil	Nil	NAD	NAD	Nil	Nil	NAD	NAD						
18	3694	Nil	Nil	1-2	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
19	3798	Nil	Nil	1-2	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
20	3799	Nil	Nil	NAD	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-

LABORATORY INVESTIGATION

S.No	OP. NO	Before treatment				After treatment				Before treatment			After treatment		
				Deposits				Deposits				Occult			Occult
		Albumin	Sugar	Pus Cells	Epi Cells	Albumin	Sugar	Pus Cells	Epi Cells	Ova	Cyst	Blood	Ova	Cyst	blood
1	44380	Nil	Nil	NAD	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
2	45343	Nil	Nil	2-3	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
3	45314	Nil	Nil	2-3	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
4	45505	Traces	Nil	2-4	5-7	Nil	Nil	NAD	NAD	-	-	-	-	-	-
5	46459	Nil	Nil	NAD	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
6	47486	Nil	Nil	Nil	2-3	Nil	Nil	NAD	NAD	-	-	-	-	-	-
7	47836	Nil	++	3-4	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
8	48509	Nil	Nil	2-3	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
9	50600	Nil	Nil	1-3	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
10	50628	Nil	Nil	1-2	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
11	50893	Nil	Nil	NAD	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
12	51140	Nil	Nil	NAD	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
13	55043	Nil	Nil	NAD	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
14	56336	Nil	Nil	NAD	1-2	Nil	Nil	NAD	NAD	-	-	-	-	-	-
15	58152	Nil	Nil	NAD	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
16	64269	Nil	Nil	1-2	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
17	76812	Nil	Nil	NAD	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
18	77099	Nil	Nil	NAD	1-3	Nil	Nil	NAD	NAD	-	-	-	-	-	-
19	81537	Nil	Nil	FEW	NAD	Nil	Nil	NAD	NAD	-	-	-	-	-	-
20	87037	Nil	Nil	NAD	1-2	Nil	Nil	NAD	NAD	-	-	-	-	-	-

LABORATORY INVESTIGATION

S.No	IP.No	Name	Hb gm%		Serum Cholesterol mg%	
			BT	AT	BT	AT
1	2193	Vengatesh	12	13	161	145
2	2313	Vellammal	11	11	157	142
3	2527	Ganapathyammal	11	12	140	143
4	2622	Petchithai	11.4	11	210	142
5	2815	Poorathammal	11.5	12	220	148
6	2819	Thillaiammal	11	11	220	162
7	2842	Mutharammal	9.8	10	198	120
8	2999	Sunthari	9	11	146	120
9	3014	Revathi	11	12	106	120
10	3032	Selvaraj	9.5	11	199	200
11	3023	Azhagammal	10.6	11	160	152
12	3122	Anthoniammal	9	11	209	200
13	3143	Ashokan	12	14	114	120
14	3316	Ganesan	12	13	140	132
15	3365	Poosathorachi	11.8	12	125	120
16	3546	Maalaikani	10.8	11	102	110
17	3659	Nawabjan	12	13	195	167
18	3694	Mohamed ali	12	14	195	158
19	3798	Shankar	12	14	186	167
20	3799	Moorthi	11.5	13	209	198

LABORATORY INVESTIGATION

S.No	OP.No	Name	Hb gm%		Serum Cholesterol mg%	
			BT	AT	BT	AT
1	44380	Rani	10	11	220	200
2	45343	Vasigara ruban	13	14	160	124
3	45314	Raja	14.5	14	172	170
4	45505	Selvi	12	12	166	160
5	46459	Dhinakaran	13	13.5	195	180
6	47486	Shanmuganathan	12	13	241	220
7	47836	Ratha	10.2	11	189	150
8	48509	Peminal	10	11	192	148
9	50600	Chinnathai	11	12	168	150
10	50628	muthu	12	12	181	148
11	50893	Beemarao	14	15	223	180
12	51140	Prabu	12.8	13.2	162	142
13	55043	Praveena	9	11	182	140
14	56336	Shankaramadasamy	14	13	167	165
15	58152	Manikandan	13	14	253	220
16	64269	Hariharan	13.8	14	152	143
17	76812	Shenbhagalakshmi	11.2	11	184	145
18	77099	Priya	10	11	168	120
19	81537	Sharmila	10.8	11	108	110
20	87037	Ponnammal	12	12	220	200

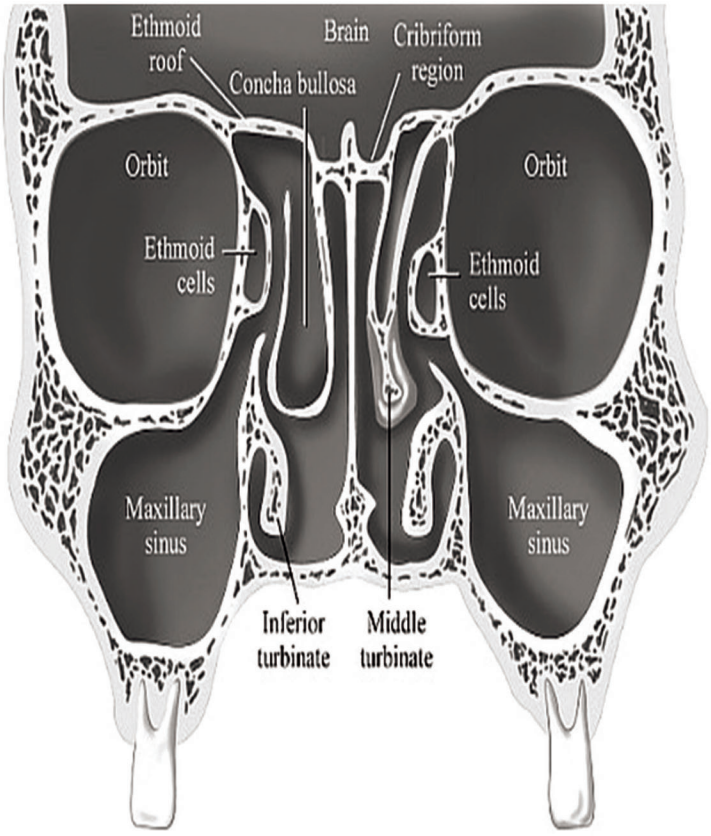
CASE SUMMARY

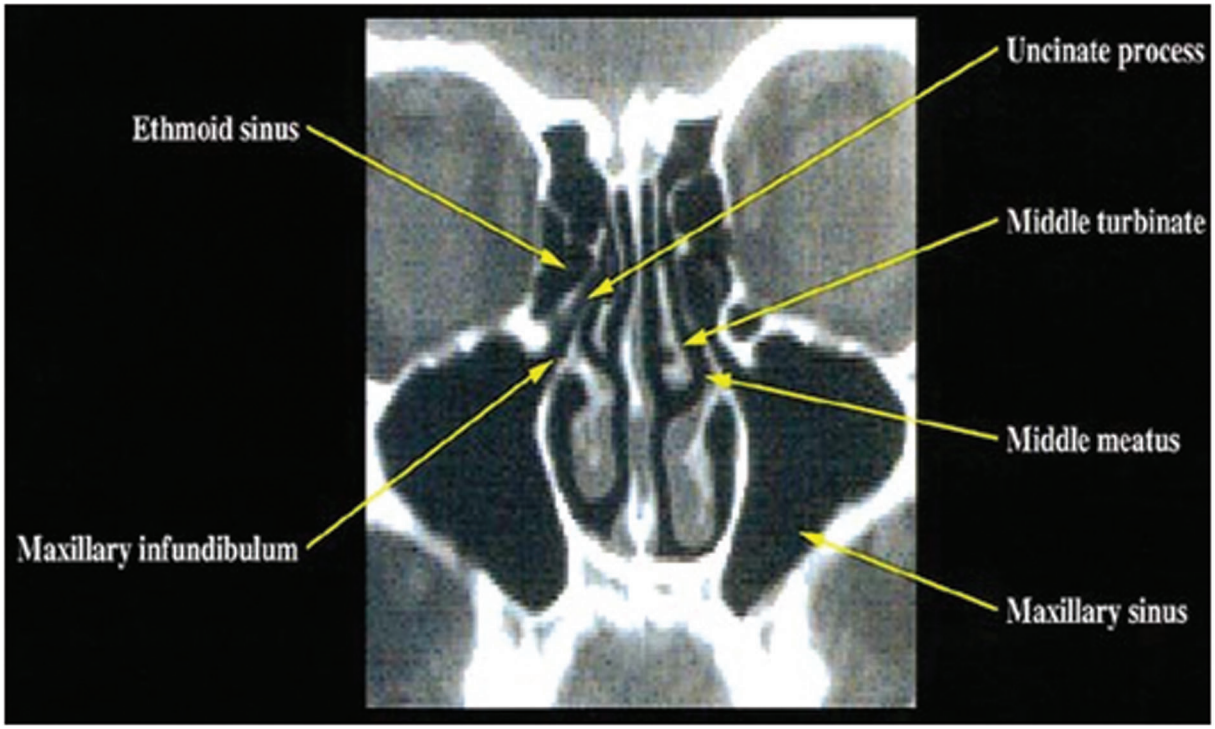
S.NO	IP NO	NAME	AGE	SEX	DOA	DOD	TRATED DAYS	RESULT
1	2193	Vengatesh	33	M	09.07.12	09.08.12	31 DAYS	Good
2	2313	Vellaiammal	55	F	18.07.12	06.08.12	20 DAYS	Good
3	2527	Ganapathiammal	60	F	02.08.12	22.08.12	21 DAYS	Good
4	2622	Petchithai	52	F	09.08.12	28.08.12	20 DAYS	Good
5	2815	Pooranathammal	60	F	25.08.12	15.09.12	21 DAYS	Moderate
6	2819	Thillaiammal	60	F	27.08.12	15.09.12	20 DAYS	Poor
7	2842	Mutharammal	47	F	28.8.12	20.09.12	24 DAYS	Good
8	2999	Sundari	55	F	10.09.12	01.10.12	22 DAYS	Good
9	3014	Revathy	28	F	11.09.12	01.10.12	21DAYS	Good
10	3032	Selvaraj	54	M	12.09.12	04.10.12	23 DAYS	Good
11	3023	Azhagammal	52	F	15.09.12	09.10.12	25 DAYS	Moderate
12	3122	Anthoniammal	47	F	20.09.12	09.10.12	20 DAYS	Good
13	3143	Ashokan	57	M	21.9.12	10.10.12	20 DAYS	Moderate
14	3316	Ganeshan	42	M	28.09.12	22.10.12	25 DAYS	Good
15	3365	Poosathorachi	50	F	01.10.12	24.10.12	24 DAYS	Moderate
16	3546	Maalaikani	52	M	12.10.12	07.11.12	27 DAYS	Good
17	3659	Nawabjan	48	M	25.10.12	19.11.12	25 DAYS	Good
18	3694	Mohemad ali	52	M	27.10.12	20.11.12	24 DAYS	Good
19	3798	Shankar	24	M	07.11.12	29.11.12	23 DAYS	Good
20	3799	Moorthi	60	M	07.11.12	29.11.12	23 DAYS	Good

CASE SUMMARY

S.NO	OP. NO	NAME	AGE	SEX	DOA	DOD	TRATED DAYS	RESULT
1	44380	Rani	33	F	14.06.12	2.08.12	49 DAYS	Good
2	45343	Vasigararuban	23	M	18.06.12	29.07.12	42 DAYS	Good
3	45314	Raja	27	M	18.06.12	29.07.12	42 DAYS	Good
4	45505	Selvi	35	F	18.06.12	30.07.12	43 DAYS	Good
5	46459	Dhinakaran	34	M	21.06.12	01.08.12	42 DAYS	Good
6	47486	Shanmuganathan	43	M	25.06.12	06.08.12	43 DAYS	Good
7	47836	Ratha	56	F	26.06.12	06.08.12	42 DAYS	Good
8	48509	Peminal	50	F	28.06.12	08.08.12	42 DAYS	Good
9	50600	Chinnathai	47	F	05.07.12	07.08.12	35 DAYS	Moderate
10	50628	Muthu	43	M	29.07.11	11.09.11	45 DAYS	Good
11	50893	Beemarao	27	M	06.07.12	16.08.12	42 DAYS	Good
12	51140	Prabu	22	M	07.07.12	10.07.12	35 DAYS	Moderate
13	55043	Praveena	27	F	20.07.12	06.09.12	49 DAYS	Good
14	56336	Shankaramadasamy	33	M	25.07.12	04.09.12	42 DAYS	Good
15	58152	Manikandan	32	M	31.07.12	10.09.12	42 DAYS	Good
16	64269	Hariharan	23	M	21.08.12	01.10.12	42 DAYS	Good
17	76812	Shenbhagalakshmi	25	F	28.09.12	08.11.12	42 DAYS	Good
18	77099	Priya	23	F	29.09.12	08.11.12	35 DAYS	Good
19	81537	Sharmila	35	F	12.10.12	15.11.12	35 DAYS	Good
20	87037	Ponnammal	60	F	01.11.12	05.12.12	35 DAYS	Good

PNS – CORONAL SECTION

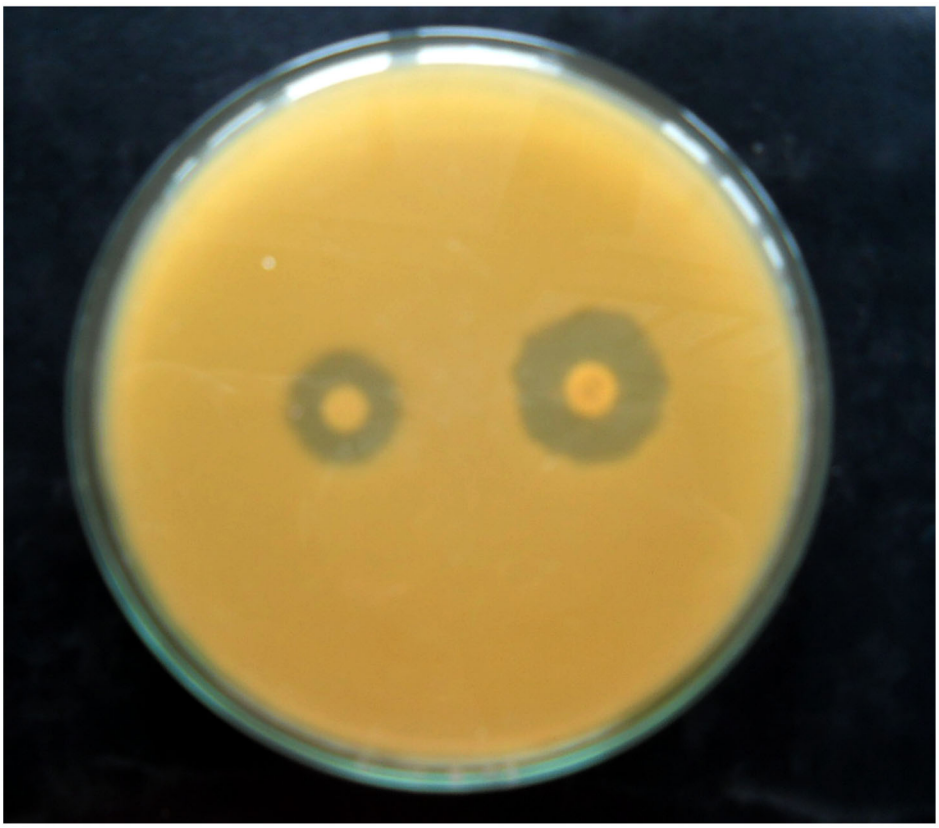




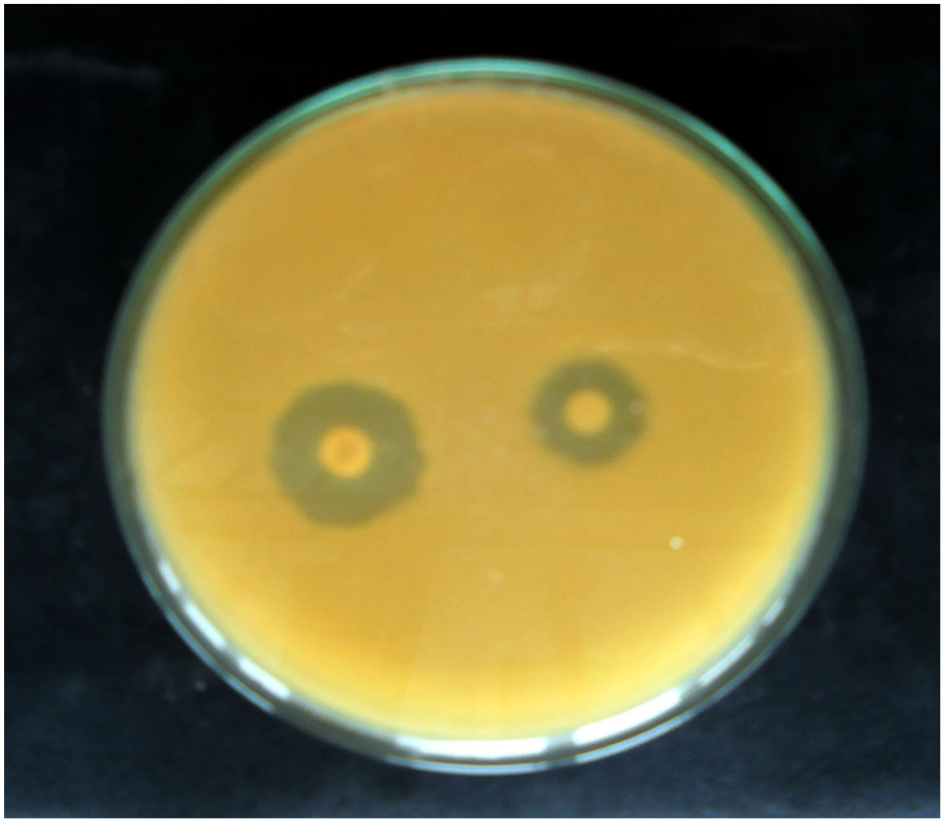
SHOWING NORMAL ANATOMY OF THE OSTEOMEATAL UNIT AS SEEN ON A LIMITED SINUS COMPUTED TOMOGRAPHIC (CT) SCAN

பீனிசத்துக்குச் சூரணம்

ESCHERICHIA COLI - SENSITIVE



PROTEUS, STAPHYLOCOCCUS AUREUS MODERATELY SENSITIVE



கருகுரோகிணி

கற்கடகசிங்கி

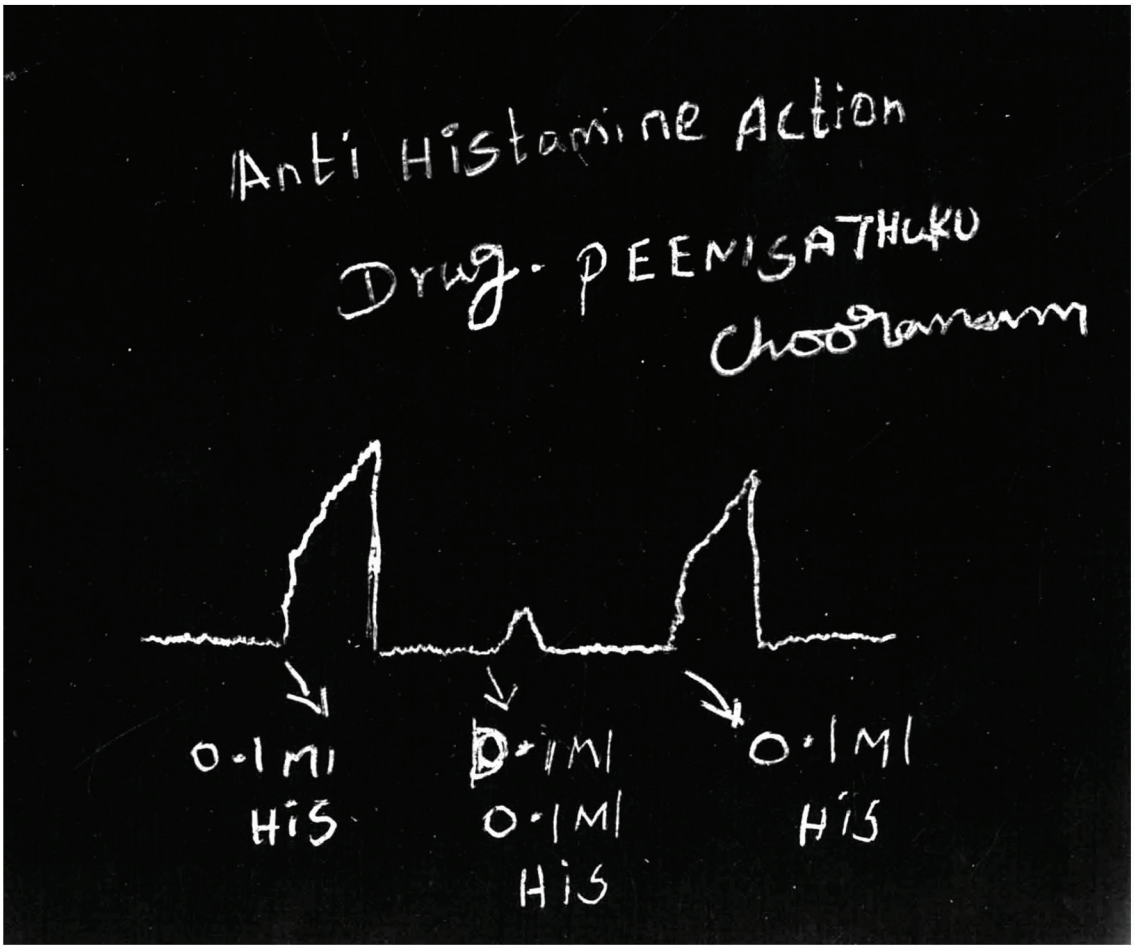
சடாமாஞ்சில்

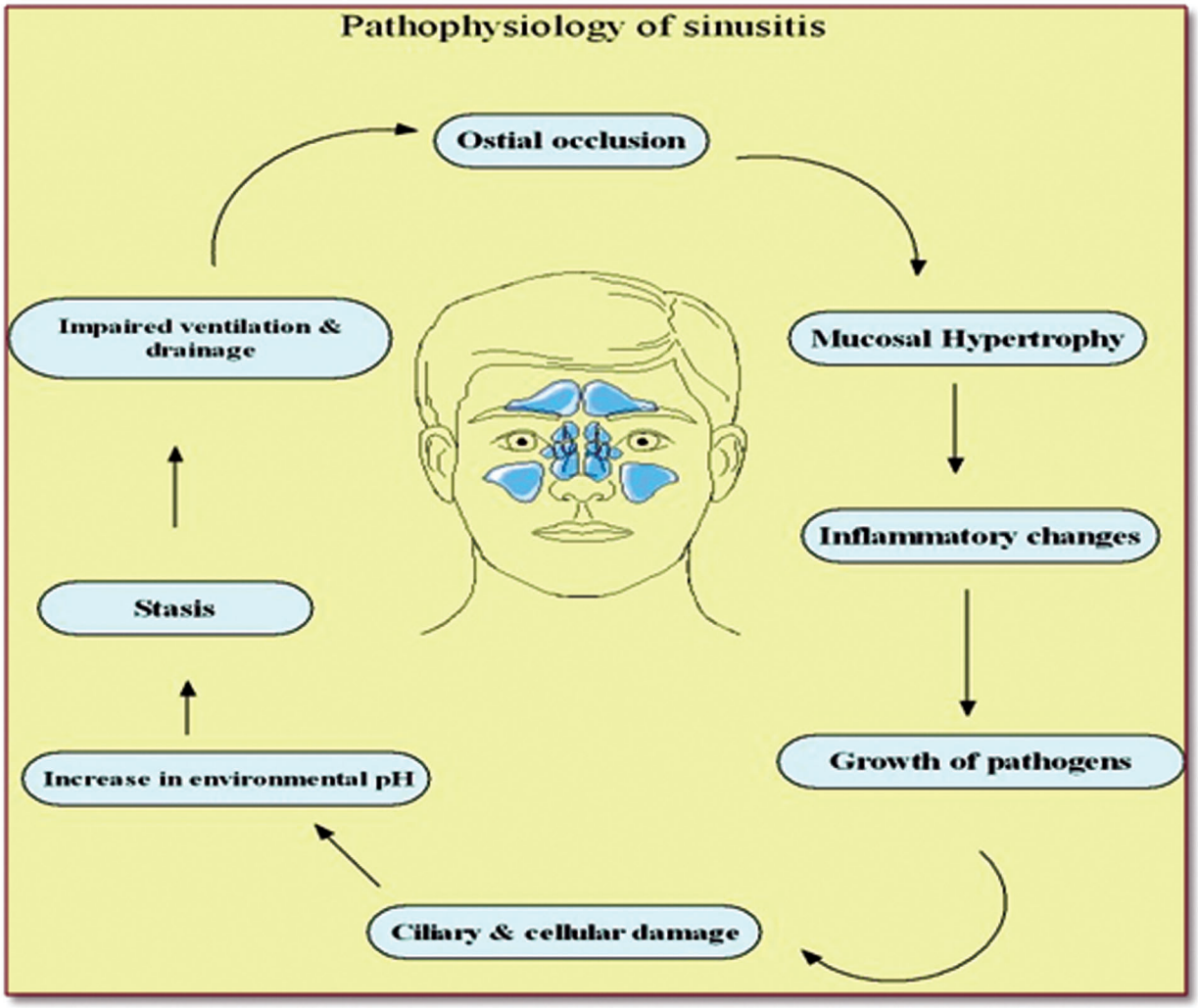
சிறுதேக்கு

கண்டங்கத்திரி

இந்துப்பு

ANTI HISTAMINIC ACTION

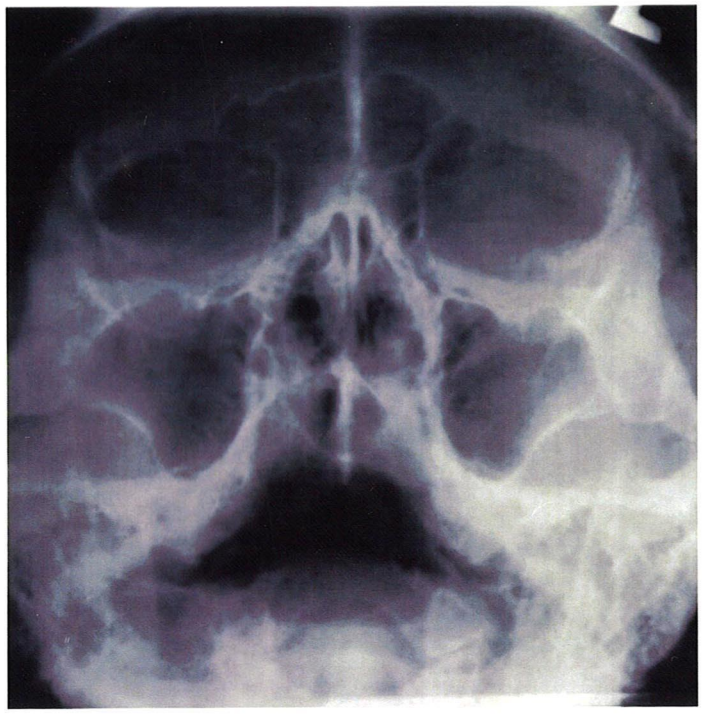



Pathophysiology of sinusitis
Ostial occlusion
Mucosal Hypertrophy
Inflammatory changes
Growth of pathogens
Ciliary & cellular damage
Increase in environmental pH
Stasis
Impaired ventilation & drainage

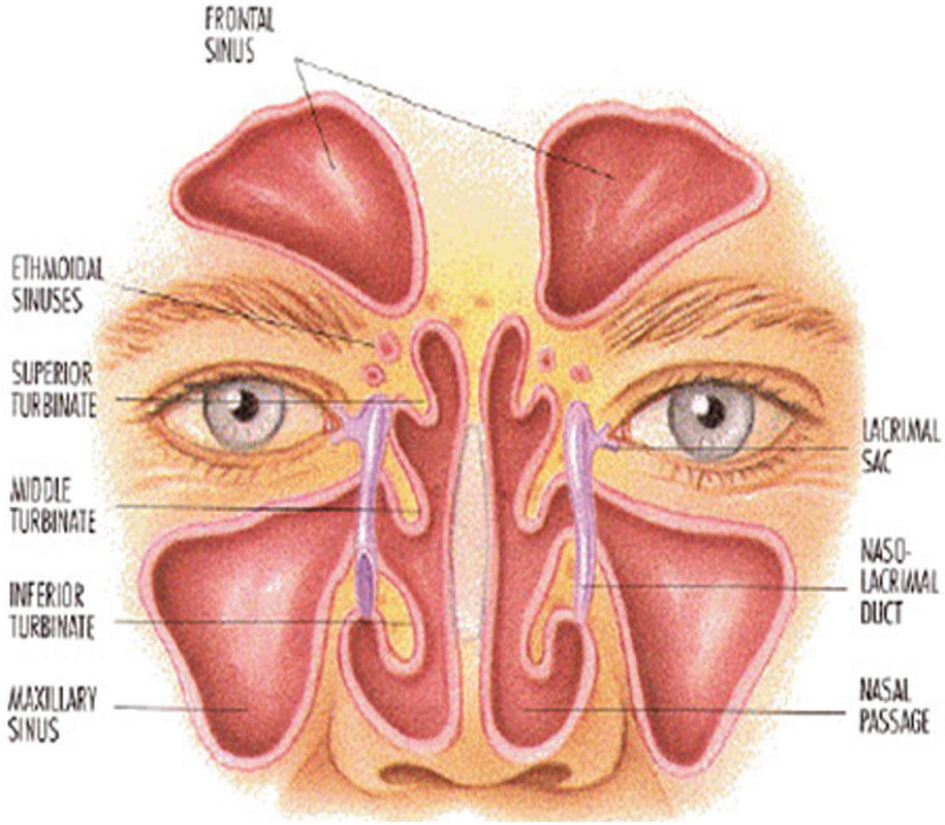
O.P. No : 46459

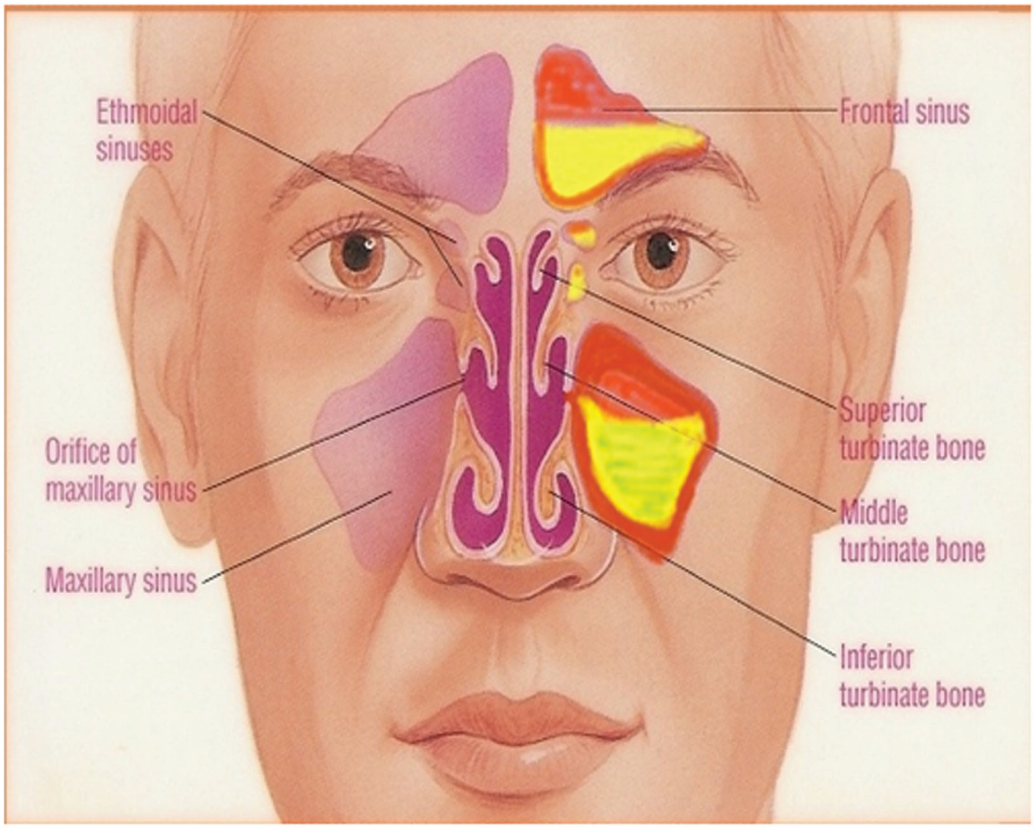
Before Treatment (Left Maxillary Sinusitis)

After Treatment (Normal)

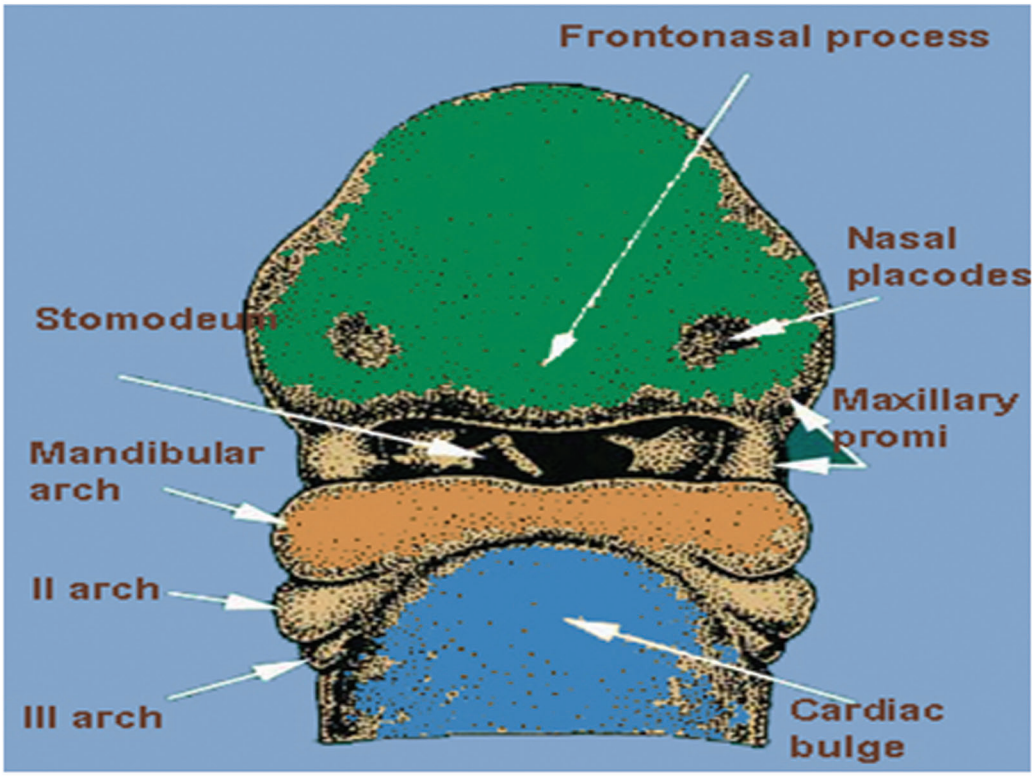


ANTERIOR VIEW OF PNS

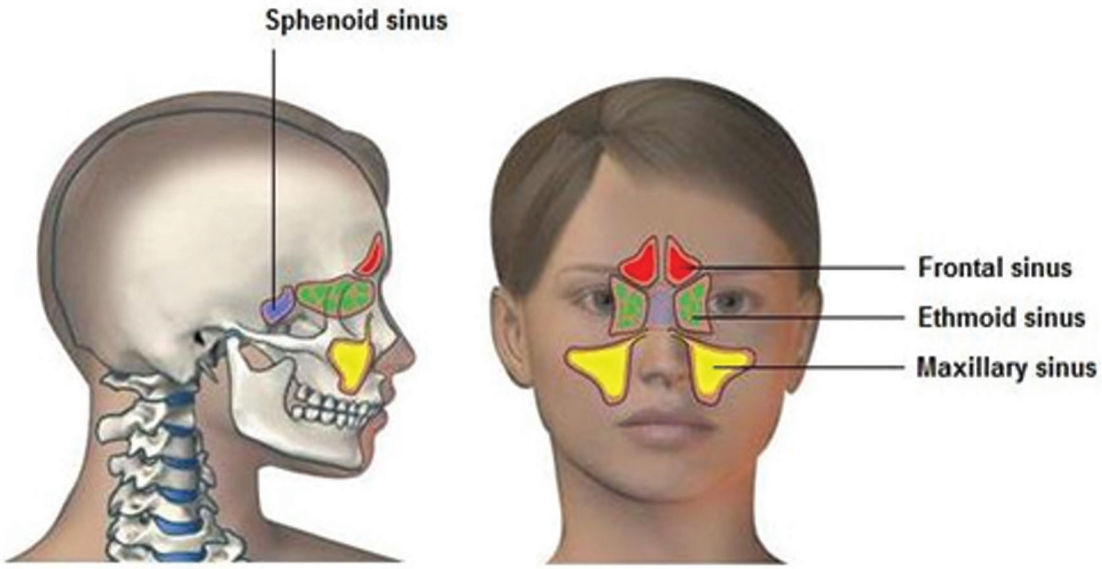




SHOWING DEVELOPMENT OF NOSE AND PNS



SHOWS PARANASAL SINUSES



MALAR MICRO DIAGNOSTIC CENTRE

134/59-1, Tiruchendur Road, Palayamkottai - 627002

Phone - Lab : 2583954, Res : 2583955

REPORT OF MICROBIOLOGICAL ANALYSIS OF

PEENISATHUKU CHOORANAM

S.No	Test Drug	Organism (Culture)	Susceptibility	Test zone size	Control zone size
1.	PEENISATHUKKU CHOORANAM	Escherichia coli	Sensitive	19mm	21mm
2.		Klebsiella	Resistant		
3.		Proteus	Moderately sensitive	11mm	17mm
4.		Staphylococcus aureus	Moderately sensitive	11mm	17mm
5.		Streptococcus pneumonia	Resistant		
6.		Psudomonas aeruginosa	Resistant		

Dr.R.NAPOLEON B.Sc. M.D

CONSULTANT MICROBIOLOGIST.

TIRUNELVELI.

Dear Doctor,

Thank you for your reference. If the result is not correlating with the clinical impression, please inform us to repeat the test with a fresh sample.